

Inside Dope

By GEORGE F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week
Baseball Fever
Oddball Stuff
Memories of Greatness
Embarrassing Moments

Stories of the Week

A rugged individualist is the man who shaves with an electric razor while watching the World Series telecasts.

Year following the Cubs' lame showing against New York in a World Series, former Yankee pitcher Waite Hoyt toiled for Pittsburgh.

On a hot day at Wrigley Field the Cub bench jockeys razed Hoyt until he called time and shouted:

"Lay off, or I'll put on my old Yankee uniform, and scare the daylight out of you."

Baseball Fever

With the 1958 "World Serious" upon us, seems like everyone you meet is talking baseball. Herewith a column of conversation material:

Ring Lardner's immortal "You Know Me, Al" series of first-person stories about a baseball player ran in the *Saturday Evening Post* for many weeks.

They were an instantaneous hit, and zoomed *Post* circulation. In an inept self-defense move, rival *Colliers Weekly* hired an imitator. This fellow not only aped Lardner's style, but lifted his phraseology.

Attempting to needle Ring, somebody asked him if he didn't think his imitator was a great writer.

"No, I don't," solemn Lardner. "But I'll say this: He is a great reader."

Incredible. But it happened in Kansas City in its American Association days. Jerry Priddy was perched on second, Frenchy Bordagary on third. Bill Hitchcock bounded to the Columbus third baseman.

When Bordagary tried for home Priddy reached third. However, Frenchy didn't make it. He returned to third safely, though, and Priddy slid back to second. While this screwloose baserunning was going on, Hitchcock was trapped between first and second.

Again Bordagary broke for the plate, and Priddy for third, only to get back by their fingernails. Whereupon the excited Columbus first baseman lost his head entirely, threw the ball

(Concluded on Page 8, Col. 1)

Coldmobile Div. Acquired by McGrawEdison

CHICAGO — Officers of McGraw-Edison Co. have announced the firm's acquisition of all assets and equipment of Union Asbestos & Rubber Co.'s Coldmobile Div., manufacturer of truck and truck-trailer refrigeration equipment.

All Coldmobile manufacturing tools formerly located at the plant in Blue Island, Ill. will be transferred to McGraw-Edison's Tropic-Aire Div., 5201 W. 65th St., Chicago.

According to A. K. Burkell, general manager of the Tropic-Aire Div., all models of Coldmobile refrigeration units will be built at the Tropic-Aire Div. plant.

"Up to the present time, the McGraw-Edison division has fabricated mobile refrigeration units exclusively for trailer installation, with capacities ranging from 5 to 8 tons of refrigeration," it was pointed out. "These units are equipped with separate power plants, fired by either gasoline, diesel fuel, or LP.

"Coldmobile equipment, for the greater part, is actuated by power from the truck's engine. Such units are most suitable for smaller refrigerated delivery

(Concluded on Page 4, Col. 5)

Downtrend Leveling Off

6-Mo. Compressor Shipments Off 21%

WASHINGTON, D. C.—Manufacturers' shipments of compressor bodies for the first six months of 1958 were about 21% under shipments for the same period last year, it was reported by Geo. S. Jones, Jr., managing director of the Air-Conditioning & Refrigeration Institute.

This marks a continuation of the "leveling off" trend whose beginning was noted in May figures, it was pointed out.

Previous to May, shipments had been running as much as 25% behind comparable periods of 1957. In May the shipments were about 14% under May,

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Meter Measures BTU's for Billing Cooling, Heating

NEW YORK CITY—Airlines planning to operate their own terminals at Idlewild international airport here may pay for their air conditioning and heating by the B.t.u.

Chilled water for air conditioning and hot water for heating will be supplied by the Port of New York Authority, operator of the New York International Airport. It is al-

HACKENSACK, N. J.—Little can be done under the rules to put more bounce into bowling balls, but there is nothing in the books against making the bowlers themselves livelier.

Advantage is to be taken of this fact at the new "Bowler City" being built by River Realty Co. on Route 4 in Hackensack, across the Hudson River from New York City.

The air in the big recreation center, which is to have an enclosed area of nearly 300,000 sq. ft., will be continuously enriched with nascent oxygen as part of the operation of the air conditioning system, according to Richard L. Hughes, president of Electric Products, Inc., Jersey City, which has received the contract to install the entire cooling system.

"Nascent oxygen has an incidental effect of helping to counteract odors, and its ability to give people refreshed vigor and a feeling of alert well-being has long been scientifically established," Hughes said. "The

(Concluded on Page 19, Col. 5)

'Enriched' Air To Give Keglers More Bounce

See Little Chance of Room Unit Tax Being Retroactive

WASHINGTON, D. C.—Final version of Internal Revenue Ruling 54-462 imposing the 10% excise tax on all room air conditioners will probably not be issued for several weeks, and when it is issued, it is unlikely that the tax will be imposed on a retroactive basis, officials of the Internal Revenue Service told AIR CONDITIONING & REFRIGERATION NEWS last week.

Declining to speculate when the final version of the ruling would be announced and the effective date established, the IRS officials pointed out that the suggestions made in communications from ARI and NEMA brought up many questions which would have to be fully resolved before the official ruling could be announced.

While there is no set policy against making the provisions of an IRS ruling retroactive, which could set the effective date as of a time several weeks prior to the announcement of the ruling, such instances are rare, the officials stated. It would be much more likely that

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IRS Asks NEMA To Clarify Stand on Exempting Heat Pump

NEW YORK CITY—Internal Revenue Service has asked the National Electrical Manufacturers Association for clarification of its position that heat pump room air conditioners be exempted from the 10% excise tax, NEMA reported recently.

Representatives of NEMA's excise tax committee met with IRS officials on Sept. 18 to present their suggestions for revision of Internal Revenue Ruling 54-462 covering room air conditioners. (For details see back page, Sept. 22 issue.)

IRS has proposed that all room air conditioners regardless of size be subject to the 10% excise tax. At present, only those under 1 hp. are taxed.

IRS also requested, NEMA said, further information on its reasons for asking that self-contained air conditioning units sold for future delivery under builders' contracts made prior to the effective date of the new definition be exempt.

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L. A. Board OK's Code Provision

LOS ANGELES—The Board of Building & Safety Commissioners has approved a modified provision requiring the signature of a registered professional mechanical engineer on plans and specifications for large installations of heating equipment, ventilating equipment, or air conditioning equipment.

Referred back to the industry advisory committee are three other items the board deleted from the proposed revised heating, ventilating, and air conditioning code.

As a result the committee's proposed code which now goes to the City administrative officer, the council, and the Mayor for necessary ordinance enactment, will not have the following three provisions:

A requirement that would have had evaporative coolers inspected by Heating & Refrigeration section inspectors. These coolers already require an electrical permit.

A requirement that would have prohibited the use of tin in ducts.

A requirement that would have prohibited the use of unapproved unvented heaters.

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Bakersfield Bid Depository Changed To Comply with Court's Findings

BAKERSFIELD, Calif.—The three rules of the "Bakersfield Construction Industry Bid Depository" which U. S. District Judge Gilbert H. Jertberg at Fresno disapproved and called "price tampering" have been changed to comply with his May 15 findings of fact, conclusions of law, and judgment.

These changes were made in July, and the depository has continued its operations, which first began in 1950, it was learned recently.

William G. Moy, manager of the bid depository, said their attorney reported he will file the new rules with the court, as the judgment permits.

One of the old rules required contractors to submit separate bids for plumbing, and heating and ventilating, except that a combination bid could be made

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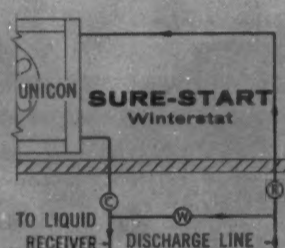
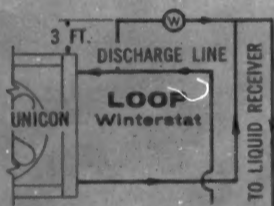


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Hub Asks Duplicate Records After Fire

HATTIESBURG, Miss.—Back to work and attempting to rebuild after a fire completely devastated its building and destroyed its inventory, Hub Refrigeration & Fixture Co. here has appealed to customers and suppliers for duplicate records of their current transactions with the company.

M. Frank Curry, president, said the fire, which struck Sept. 12, was of undetermined origin. Insurance covered approximately one-fifth of the loss, he said.

Curry estimated the loss at \$200,000; \$75,000 for the building and \$125,000 for its contents.

The company, he announced, is doing business as usual in a temporary rental building at 1502 N. Main St.

Organize Local Hydronics Council In Long Island

NEW YORK CITY—Hydronic industry leaders of Long Island are organizing a Better Heating-Cooling Council to promote their heating and air conditioning interests throughout the area, it was announced.

First action was taken at a recent dinner meeting attended by 70 hydronic contractors, wholesalers, and manufacturers' representatives at the International hotel, Long Island City, N. Y. Chairman of the meeting was Alfred Hewitt, Altom Plumbing & Heating Corp., Mineola, L. I.

When formally established, the new council will mark the fifth such operation in the country. Already operating are similar local groups in Cleveland, Chicago, Milwaukee, and Philadelphia, all affiliated with the national Better Heating-Cooling Council in New York City.

The decision to push ahead with a major local hydronics promotion in Long Island was reached after the group heard a panel of speakers point out the need for united industry action to promote hydronics in the Long Island area, one of the nation's largest home-building markets.

Speakers included contractor Sidney Horowitz, Horowitz Brothers, Inc.; wholesaler Sherman Hollander, Wallack-Hollander, Inc.; manufacturer Ray Bohr, president, Federal Boiler Co., Inc.; and business agent Neil Carty, UA Local 638, Steamfitters Union.

On hand to explain the services and aid available from the national council were BHC Executive Director Franklin Greene and Director of Field Services Warren Owens.

Freezer Sales Continue Strong as Refrigerator Volume Slumps In July

NEW YORK CITY—After topping the year-ago figure for the first time this year, in June, industry sales of electric household refrigerators in July fell behind the total for July, 1957, according to statistics issued by the National Electrical Manufacturers Association.

However, sales of farm and home freezers continued to surpass those for year-earlier periods.

NEMA reported that total industry sales, including exports, of domestic refrigerators in July amounted to 279,700, compared with 318,000 in July of last year. Sales for the first seven months were estimated at 1,764,700, against 2,121,800 in the like year-ago period.

For the fourth straight month, in July, freezer sales topped the 1957 figure, totaling 119,700 as compared with 109,100 in the same 1957 month.

And for the second time, freezer sales for the year to date exceeded last year's total. During the first seven months, 613,300 freezers were sold as compared with 580,300 in the corresponding period of 1957.



WHY A .300 HITTER IS BIG STUFF!

Very simple. Because he's better than average. What's your authority? The record books of baseball confirm the fact that the average player does not get three hits in ten times at bat—and that a man who can is, therefore, a bargain.

Do you have any records that tell you whether the compressors and condensing units you buy are the best on the market today? Any records to prove your reject rate is as low as you can get it?

Do you know for certain what is par for compressor performance?

If you haven't compared them with other makes in actual field use, you have no standard. We believe the compressors we're delivering now—because of the new Bendix-Westinghouse methods of quality control—are the best performing units on today's market. But we can't prove we can save you money until you make us prove it with a trial order. How about it?

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Detroit Meeting Oct. 15 Will Study Temporary Heat Pact To Cover Cooling? L. A. Code -- Reciprocal Refrigeration Licensing

HIGHLAND PARK, Mich.—A meeting to discuss the possibility of organizing a reciprocal refrigeration council in the greater Detroit area to govern the licensing of refrigeration contractors has been called for Oct. 15 at 2 p.m. It will be held in the Highland Park city council chamber.

Frederick W. Stanley, refrigeration inspector for the city of Highland Park, has sent invitations to interested parties in all Detroit area communities to attend the meeting.

Stanley pointed out that "there has been considerable agitation in the refrigeration and air conditioning industry to the effect that a reciprocal refrigeration council is needed in the greater Detroit area to

govern the licensing of refrigeration contractors.

"Reciprocal licensing is a cooperative effort by a number of municipalities within a metropolitan area to better administer the safety standards of the refrigeration construction industry without relinquishing their individual rights and responsibilities.

"It is proposed," he said, "that licensed qualified refrigeration contractors would then be able to register their license in other communities upon the payment of a nominal fee as long as the home community enters voluntarily into a reciprocal agreement adopting the same standard of examinations, uniform fees, and licensing rules."

WASHINGTON, D. C.—To revise and bring up to date the 34-year-old Pittsburgh "temporary heat" agreement to include the installation and maintenance during construction of temporary cooling and refrigeration systems as well as heating systems, representatives of two contractor groups and the United Association will meet in Chicago on Oct. 2.

Attending the meeting will be

two representatives of the National Association of Plumbing Contractors, three from the Mechanical Contractors Association, and five from the UA.

The revised agreement is expected to continue to protect contractors on heating contracts and to extend similar protection to cooling and refrigeration installations not now covered by the existing agreement, according to NACP.

Kelvinator Will Hold Meeting in Grand Rapids

DETROIT—Kelvinator Div. of American Motors Corp. has announced plans to hold its national sales convention in Grand Rapids for the first time, Oct. 6 and 7.

Walter Jeffrey, vice president and general manager of the division, said a highlight of the opening day events would be a

civic luncheon, including an address by George Romney, American Motors president.

Some 500 distributors and field sales representatives will attend for a preview of the company's 1959 lines of electric refrigerators, electric ranges, and home freezers, Jeffrey pointed out.

(Concluded from Page 1, Col. 5)

The board has not acted on the proposed revision of the refrigeration code which will probably come before them at a meeting in October.

In considering the committee's proposal for the signature of a mechanical engineer on plans and specs, the board pointed to the fact that electrical and structural engineers have had such a code requirement for some time.

The mechanical engineer will be required when the building exceeds a certain size, the installation of a certain B.t.u. capacity, and horsepower rating.

However, for places providing for 300 to 900 people, a licensed contractor may submit plans and specs. Over that capacity the licensed mechanical engineer must affix his signature.

The engineering requirement provoked pressure on the board. A public hearing June 12 saw many engineers urging the code require their services. Contractors with years of successful installations to point to also appeared and pointed out their competent work, and the work of their trained staff personnel, in preparing plans and specs.

Coldmobile --

(Concluded from Page 1, Col. 3)

trucks, and some models are equipped with electric stand-by motors.

"Addition of Coldmobile products will broaden considerably the McGraw-Edison line of mobile refrigeration equipment."

Burkell indicated that the Tropic-Aire Div. hopes to unify sales and service facilities for Tropic-Aire-Coldmobile units at sales-service stations throughout the country.

He said that the program of screening Continental Motors' sales-service facilities as combined Tropic-Aire sales-service points is still under way and progressing satisfactorily.

R. E. Read, Tropic-Aire refrigeration sales manager, announced that D. N. Quamme, formerly of Coldmobile, has joined the McGraw-Edison division's staff as assistant sales manager. In addition E. E. Townsend and F. R. Vanderlinden have joined the Tropic-Aire Div.'s engineering staff. Both are Coldmobile engineers.

Tax Plans --

(Concluded from Page 1, Col. 4)

the effective date will be "prospective" (following the announcement of the official ruling), rather than retroactive, it was stated.

As of the time this issue of the NEWS goes to press, no date had been set for a consultative meeting between representatives of the ARI and IRS officials.

NEMA --

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NEMA had asked for a Nov. 1, 1958 effective date.

NEMA added that its room air conditioner section was asked to file briefs within the next 20 days (after Sept. 18).



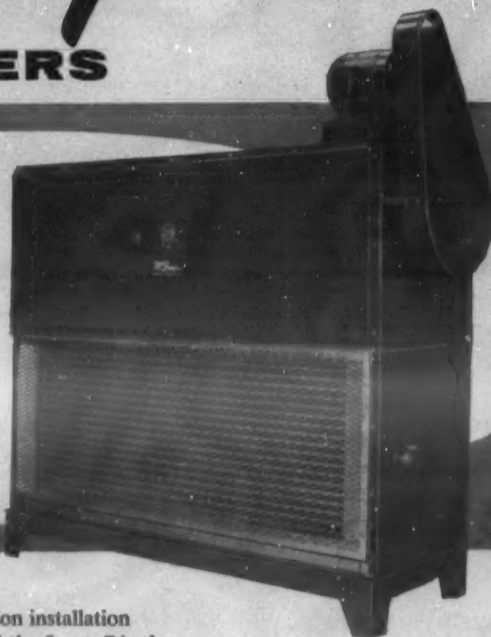
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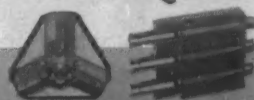
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Church Job Is 'Pioneering'

Air Conditioning Outlets Are 100 Ft. Up To Use Natural Air Circulation System Ducts

NEW YORK CITY—What are said to be the highest outlets in the United States for an air conditioning system—100 ft. above the floor—feature an installation recently completed for Riverside church here.

The installation is part of a modernization program and an eight-story addition to the church, which are being performed by Vermilya-Brown Co., Inc.

Richard I. Land, V-B officer in charge of the project, said that because of the unusual height at which the conditioned air enters the nave, the project is "literally pioneering in air conditioning engineering." Such outlets usually are only about 12 ft. above floor level, he added.

The unusual height, Land said, resulted from efforts to save the church a sizeable expense by utilizing the ducts of a natural-air circulation system installed about 1928. He credited Meyer, Strong & Jones, mechanical and electrical engineer, with the courage to accept the challenge.

Daniel J. Whealton, associate in that firm, said the old system supplied unconditioned air to the nave through floor openings under the pews and exhausted the warm air through seven openings in the timbered tile arches forming the 100-ft. high ceiling.

The new system uses the same floor and ceiling openings and substantially the same ductwork, but in reverse. The modernization was achieved with the addition of very little new ductwork for the distribution system and this ductwork was required principally to serve the first balcony, it was noted.

The design problem, said Whealton, was posed by the nave's huge dimensions of 100-ft. height, 65-ft. width, 200-ft. length, a 40-ft. deep balcony, a triforium, a volume of 1,300,000 cu. ft., and a "population" of 1,960 persons.

"The system that was worked out provides an entering air temperature-difference range of 17.5° at 50,000 c.f.m., to 25° at 35,000 c.f.m.," it was explained. "The exhaust end of the system permits withdrawal of air from under the pews at a minimum rate of 29,000 c.f.m. to a maximum rate of 44,000 c.f.m. Moderate withdrawal is necessary to avoid cold ankles and cold feet.

"The range of each system is controlled by its own variable speed motor. At the rate of 50,000 c.f.m. there will be 2.3 air changes per hour. Temperature and humidity controls are the pneumatic type.

"The system is controlled from a panel 40 ft. below the nave by means of our switches

and some pushbuttons. During the cooler months, fresh air from outdoors may be used without artificial cooling. During the winter, the old system may be used for fast heating."

Whealton said tests showed that there is no audible noise in the pews from the intruding overhead air and that no drafts of significance were reported by members of the congregation the past few Sundays since the

system was put into service.

Land said a secondary problem that had to be overcome concerned the lighting. Years ago, downlights were installed in the seven ceiling openings through which the air used to be exhausted. They were supported on steel mountings within the large exhaust duct connecting the seven ceiling openings to an exhaust air shaft.

"To simulate the new condi-

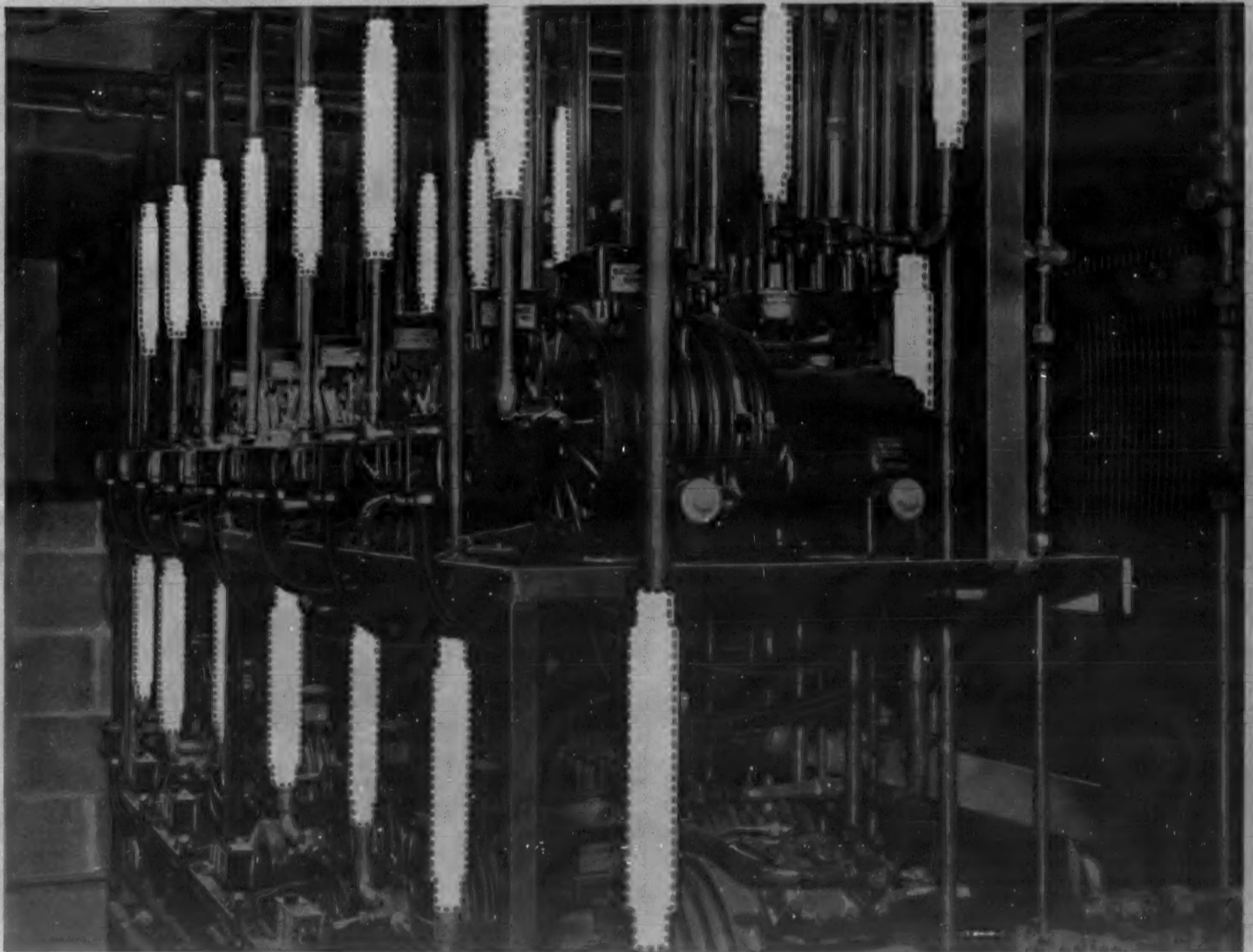
tion which would exist after the change-over, the new and much larger supply air fan was mounted in the old exhaust air duct line," it was pointed out. "On a winter day, with an outside temperature of about 50°, fresh air was pumped through the seven ceiling openings at the stepped-up velocity comparable with that ultimately felt required to satisfy the design needs and with the nave heated to about 80°. The experiment demonstrated that the air handling could probably be worked out satisfactorily."

However, said Land, the greatly stepped-up velocity and air quantities shook the lights and fixture supports in the seven openings. Though the

movement at the lights was infinitesimal, its effect 100 ft. below on a hymn book was very disturbing. A sense of pulsation was experienced. This called for removing the lights and supports from the air stream.

A section of duct over the seven openings was removed and a large diameter lens was fitted into the top of the duct. New downlights were secured to the building frame above and independent of the ductwork. That not only removed the cause of light vibration, but also removed the cause of turbulence in the air system with its resulting air flow noise.

Architect for the project was Collens, Willis & Beckonert, of Boston.



How would you complete this picture—to protect your customers from serious losses in perishables?

Vibration can cause cracked tubing and loss of refrigeration. The refrigerant charge costs plenty—frozen or fresh perishables being stored cost a lot more—and your reputation is more valuable still.

So no job like this is complete without American Vibration Eliminators*, which absorb vibration, dampen noise, and prevent cracked piping. That means satisfied customers. It means satisfied contractors, too—because *your* profits are protected. American Vibration Eliminators are inexpensive business insurance. See your Anaconda distributor.

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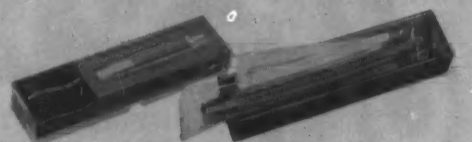
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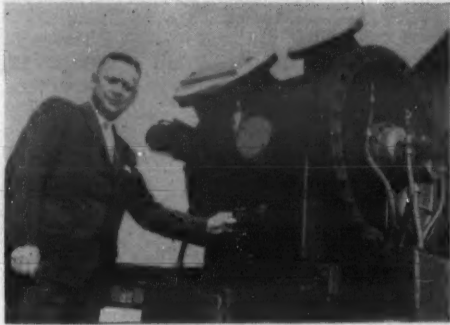
Worthington Adopts New Trade-Mark Under Company Streamlining Program

HARRISON, N. J.—Worthington Corp.'s 73-year-old winged scarab trade-mark was cast into discard on Sept. 24 and replaced by a massive "W" intended to reflect the company's progressive thinking and flexibility.

The change is one facet of a complete company streamlining now in operation. Other developments reflecting management's new philosophy are:

1. A program giving division general managers almost literally the prerogatives of independent operation, allowing the company to function as though it were a federation of smaller independent companies. This program has been in operation since 1956.

2. A "gear to the customer" motion.



NEW Worthington trade-mark is displayed on one of the company's centrifugal refrigeration compressors by M. M. Lawler, vice president, Air Conditioning and Refrigeration Div.

program that divides the sales force into direct sale and resale areas and establishes a marketing service wing to provide product and marketing planning, marketing research, and advertising and marketing pro-

The decision to adopt a new trade-mark was made two years ago, after surveys of mechanical engineers indicated that customers did not associate the winged scarab with Worthington Corp. Many thought it represented an aviation or trans-

portation firm. With the aid of the company's advertising agency, Needham, Louis & Brorby, Worthington's advertising and marketing promotion department arrived at a trade-mark that was easily recognizable, 75% more visible, and, tests indicate, symbolic of a modern, vigorous, and friendly company.

Under Worthington's divisionalization program, division general managers are given authority commensurate with their responsibilities.

Principal among the elements of this performance standard is the return on capital employed consistent with long range growth and prosperity of the division and the corporation as a whole.

Each of the 16 general managers may call on the headquarters operation for such special services and studies as he may require.

Thus Worthington is working to achieve a combination of two

strong business advantages:

1. The specialized company's speed, flexibility, and feel for its customers and markets.

2. The large corporation benefits of finance, diversity, and functional specialization.

The division manager uses modern techniques to feel the pulse of his new markets. He uses marketing research and other corporate services to set in motion a coordinated inquiry that results in prompt evaluation and handling of an opportunity.

Beginning with January, 1957, each division manager filed a five-year projection of profits, costs, product developments, plant facilities, personnel requirements, and other variables to give top management a picture of what each division saw in its future.

This is up-dated each year so that five-year divisional projections are always at hand.

Worthington claims that its new marketing philosophy puts "teeth" in the five-year projections. Division managers are now thinking in terms of one-year plans each year to cover the immediate marketing phases needed to make certain the five-year plan is moving toward its objectives.

Under the gear-to-the-customer marketing program the sales force is now divided into two areas: direct sale and resale. In the direct sale area, individual technical representatives are assigned account responsibilities. With the re-sale organization, distribution representatives serve a variety of distribution relationships.

With this type of setup, Worthington now covers its customers effectively in depth because the realigned sales contacts are more sensitive to customers' needs.

The emergence of a new marketing service wing of the Marketing Div. under the supervision of marketing vice president, T. J. Kehane, includes:

Product and Marketing Planning: Set up to help promote the use by the operating divisions of all needed marketing services both inside and outside the company.

Marketing Research: To get facts before taking action.

Advertising and Marketing Promotion: Brings advertising and sales promotion skills to bear not only on sales objectives, but also on other marketing objectives. Uses its communication skills and regular contact with divisions to help bring about a better understanding and practice of modern marketing principles.

The advertising and marketing promotion department now works to provide extra "eyes and ears" for the new product and marketing planning department as well as other units of the Marketing Div.

A new regional engineering and service department provides rapid, expert attention to service calls.

Another area that is receiving prime attention at Worthington is manager development. It is designed to give people, privately, a look at themselves.

It points out to them areas where improvements are needed, enabling them to reshape certain attitudes and improving their technical command of specific areas.

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Cooling Will Be Prominent Topic at NWAHACA Convention Plans Information Housing Conference To Boost Sales, Service, and Profits

WASHINGTON, D. C.—The air conditioning industry will have a prominent part in the Women's Conference on Housing in Washington Oct. 14-16 through participation of Air-Conditioning & Refrigeration Institute and Project SMAC ("Sell More Air Conditioning"), it is announced by Geo. S. Jones, Jr., managing director of ARI.

The conference, jointly sponsored by the National Association of Home Builders and a United Industry Committee for Housing, will bring to Washington about 100 women from all parts of the country to participate in round-table discussions of various aspects of houses.

In addition to ARI and SMAC, members of the United Industry Committee include the Portland Cement Association, National Association of Plumbing Contractors, Contracting Plasterers and Lathers National Association, the Structural Clay Products Institute, Better Heating-Cooling Council, Plumbing Fixtures Manufacturers Association, National Lumber Manufacturers Association and the Copper & Brass Research Association.

Women who will participate in the conference are being selected by local associations of home builders, affiliates of NAHB, through essay contests and the completion of questionnaires locally sponsored by newspapers. They will be women who are articulate and who have definite ideas as to what their future homes should be—or how their present homes could be improved.

It is expected that the answers to hundreds of thousands of questionnaires filled out by women who will contest for the trip to Washington for the conference, plus the information which may be gleaned from their essays, will provide a background of "survey type" information which will be usable by the air conditioning industry as well as other members of the United Industry Committee.

In addition, transcripts of the round table discussions on each of the subjects are expected to provide industry associations with guidance for promotional and developmental programs.

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In Cleveland Dec. 4-5

NWAHACA Convention Plans Information To Boost Sales, Service, and Profits

CLEVELAND—The National Warm Air Heating & Air Conditioning Association has chosen "Every sale, a new challenge, make the most of it" as the theme of its 45th annual convention.

Attendance at the two-day meeting to be held in Cleveland Dec. 4-5 is expected to be the largest in the association's history. Interest in the trade group's activities is at an all time high, according to George Boeddener, managing director, who said:

"Requests for information on the new Silver Shield program have flooded our office. From

throughout the nation dealer-contractors, consumers, manufacturers, and public officials have indicated a real belief that this program to get equipment put in properly has been what the industry has sought for many years.

"And, we will have numerous reports on sales techniques, merchandising activities, technical advancements, and interim report on the association's Research Residence No. 4 at the University of Illinois."

The 1958 meeting "will stress how the dealer-contractor can make the sale, not because he is the lowest bidder, but because

he has the product the homeowner or home buyer wants and needs," it was pointed out.

All sessions of the convention will be held at the Statler Hilton hotel in Cleveland. Actual convention sessions will be preceded by two days of committee meetings.

A "unique approach" in presenting convention information is promised by the arrangements committee. Specific information that can be taken home and used to increase service, sales, and profits will be conveyed to those present in a series of dramatized scenes. Some of the subjects that will

be covered are listed below:

"Research results for over 45 years and their impact on the American scene; evolution of heating from old time gravity systems to the most modern, widely demanded perimeter heating of today; impact of Research Residence No. 4 on installation standards, building codes, and comfort; use of manuals as basis for making a sale."

Also, "national promotional plan to make consumers—home buyers and homeowners—aware of manual know-how of the association and their importance; Silver Shield program and its successful trial in Kalamazoo, Mich.; leadership aims to be definite objective of the association's officers and staff during 1959; talks by representatives of the American Institute of Management, Better Business Bureau, and Adequate Wiring Bureau."

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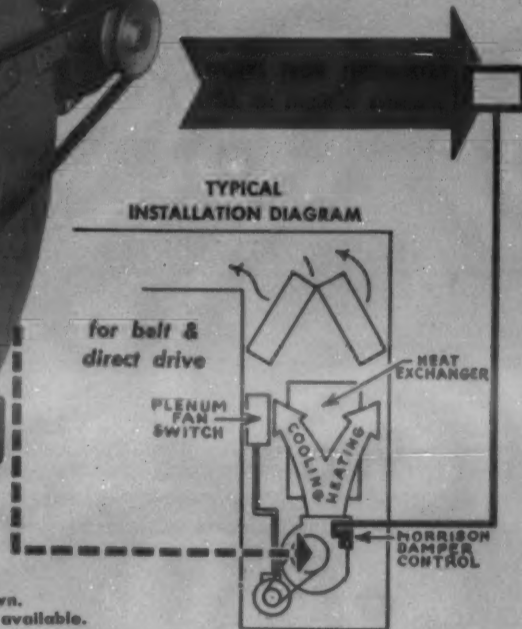
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Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)
away, and all three runners scored.

Give that man an R. G. Dun!

Local team lost, 18-0.

Citizen Grump Banker protested to the minor league club owner that he'd been robbed. "Disgraceful exhibition," etc., etc.

"Want your money back?"

"Well, yes. Just the tax, though. I hadda pass."

Sand-lot baseball can be wild. On a typical day in Detroit:

1. St. Ladislaus scored 10 runs in the fourth inning on one clean single to the outfield, an error, a sacrifice, and nine infield bunts.

2. Ed Rachal pitched a one-hitter, struck out 19 batters, and lost, 2-0.

3. Dick Montague, who had started only one previous game which he didn't finish, pitched a no-run, no-hit game.

Oddball Stuff

In a short but salient heyday Con Dempsey pitched for the Pittsburgh Pirates one year.

Later he taught physical education in a San Francisco high school.

"It's all-important to learn how to fall easily," he began a lesson.

In demonstrating this thesis he broke his right arm.

Class dismissed.

Unmentioned in the record books is the day that Mike Ryba caught and pitched in the same game. (Mike could, and did play all nine positions.) He was with the St. Louis Cardinals at

the time, and they were visiting the Boston Braves.

Ryba hurled the sixth inning in relief. Top of the seventh the No. 1 St. Louis backstop got a hit. No. 2 Cardinal catcher, as a pinch-hitter, doubled him home. While sliding into second the latter tore a ligament. Almost simultaneously the first catcher had a few teeth knocked out at home plate.

Result: both left the game.

Ryba had to switch from the mound to a chest-protector.

Characters who frequent the Canarsie Bar declare that a horse besought Leo Durocher, then manager of the Giants, for a tryout.

Willie Mays had been hurt; and Durocher's Giants were slipping. At that point Leo would have given a tryout to an elephant.

So, Durocher allowed the bar-room pink horse to grab a glove

and snag flies. Believe it or not, the horse pulled down every fungoed fly-ball with consummate ease. As an outfielder the equine was a "natural."

Furthermore his throwing was incredibly good. All in all, Durocher was impressed.

"You can field and you can hit. Are you fast?" Leo ran out the string.

"Mr. Durocher," sad-looking the horse, "if I could run, I wouldn't be here. I'd be racing at Hialeah."

Every game of the 1905 World Series was a shutout.

Christy Mathewson pitched a four-hitter to win the opener for the Giants, 3-0.

Chief Bender pitched a four-hitter to beat the Athletics, 3 to 0.

Matty took the third with another four-hitter, 9 to 0.

Iron Man McGinnity spun a five-hitter for the Giants to take

the next one, 1-0; and Matty wound up the series with a six-hitter, 2-0.

"If I'd started the Chief against Matty in the opener," Connie Mack mused many years later, "they'd still be at it."

Memories of Greatness

(a) Although he threw only three pitches in the 1954 All-Star Game, officially Washington rookie Dean Stone was the winning pitcher.

(b) Youngest player to be recognized in a major league box-score so far: Joe Nuxhall, Cincinnati Redlegs. Joe was only 15 years old when he entered the Cincinnati lineup, June 10, 1944. More than a decade later he was still pitching for Powell Crosley's club.

(c) Powerful Wahoo Sam Crawford, who outfielded alongside Ty Cobb in the Dead Ball era left a record which may stand forever. Lifetime total: 312 triples.

Many a Detroit also remembers him as the best friend a poor kid ever had. Until the management stopped him, he'd bring all boys in sight through the player's gate with him whenever he entered the stadium.

Even afterward he found a way to get the lads in free. In those days a baseball hit out of the park could be exchanged for a ticket to the game.

Crawford advised his admiring young friends to platoon themselves behind right field fence during batting practice.

And he lofted many a "free ticket" ball to impecunious youngsters thereafter.

(d) In Bill Terry's day, McGraw signed a rookie pitcher by means of a \$10,000 bonus check—a huge sum for those times. The kid looked great, too, in warm-ups.

Came then the batting practice test. Terry line-drove the first pitch smack into the youngster's breadbasket. It took several minutes to revive him.

By the time he was able to walk off the field another pitcher was at work. Terry slashed a line drive foul that caught the bonus kid in the back, while he was walking away, and decked him once more.

Nobody on the Giants ever saw the phenom again. He'd had it.

Embarrassing Moments

It is widely remembered that Babe Ruth and Stan Musial began as pitchers. Few, however, realize that Tris Speaker also belongs to that exclusive club.

In a minor league game Tris gave up 22 hits, all for extra bases.

"Nobody got a single hit off me," he smiles now, when recounting that overlooked tale.

For eight innings Bill Doak of the Dodgers protected a 1-0 lead by allowing Philadelphia only one hit.

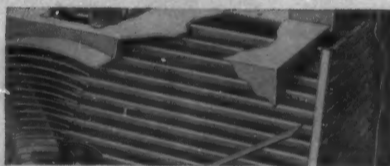
First batsman in the ninth cracked out a triple. Manager Wilbert Robinson trudged out for a conference.

"I'm O.K., Robbie," Doak reassured him. "I just got careless with that big lead."

SO HALSTEAD & MITCHELL ENGINEERS SAID . . .

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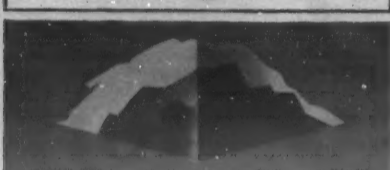
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Special pressure creosoting of the wood fill prevents formation of fungus and algae which can build up and restrict the tower air flow, reducing system capacity. Only Halstead & Mitchell Cooling Towers carry a 20-Year Guarantee against failure due to fungus attack or rotting.

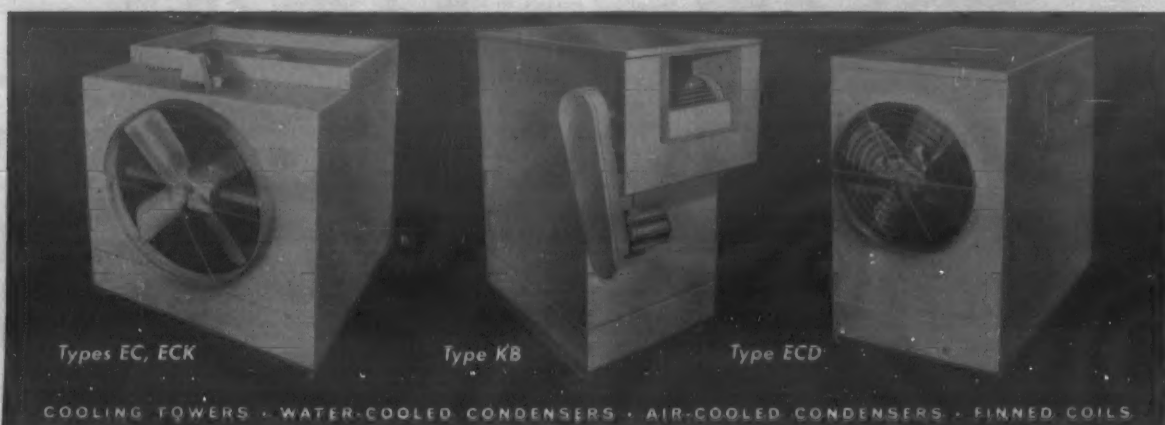


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Wolverine refrigeration tube is clean, dry, bright and consistent in temper

FOR YOU

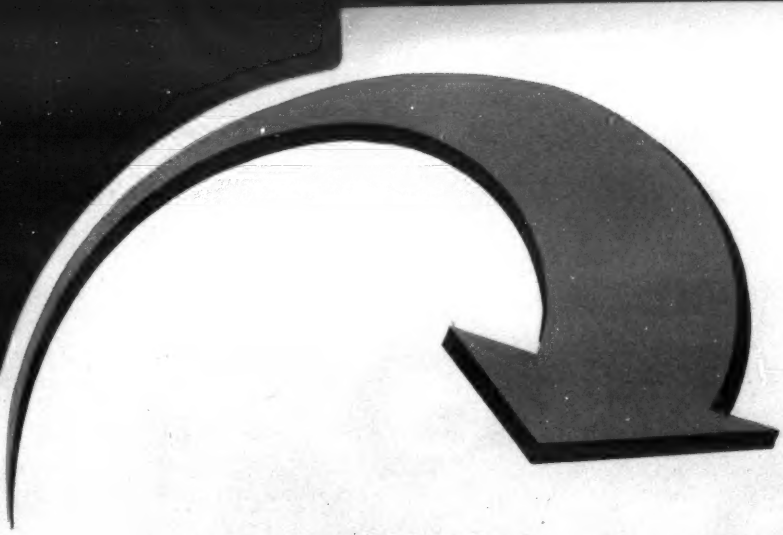
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Bakersfield Bid Depository --

(Concluded from Page 1)
if the combination were not more than 5% below the total of the bids that had been combined.

This rule has been rewritten. Moy said: "Combinations are wide open."

Another of the old rules permitted withdrawal of a bid by a subcontractor after bids were opened by the depository and before made available to the general contractors. On withdrawal the subcontractor had to pay the depository 1% of the total amount of the bid but not to exceed \$1,000.

Withdrawal Forbidden After Opening

Now the depository operates under a rule which forbids any withdrawals after bids are opened.

The old rule covering depository fees said each successful subcontractor would pay 1% of his contract award with a ceiling of \$1,000 on each payment.

Judge Jertberg's judgment noted these fees produced substantially more revenue than is required for the ordinary operation and maintenance of the bid depository.

The new rule on fees provides for payment of 1/2% by the successful subcontractor with a maximum of \$250.

Until the new rules have been approved by the court, Moy said the Bakersfield bid depository will operate without charging any fees whatever.

The Bakersfield bid depository is sponsored and operated by Bakersfield Associated Plumbing Contractors, Inc.; Kern, Inyo & Mono Counties Sheet Metal Contractors Association, Inc.; and Kern County Electrical Contractors Association, Inc.

Several of the contractors in these associations also have shops in other trades, including air conditioning.

The Isotherm Co., besides being a sheet metal contractor, is an air conditioning contractor, a refrigeration contractor, and an insulation contractor.

Gundlach's is a plumbing contractor, sheet metal contractor, air conditioning contractor, and a boiler, hot water, and heating contractor.

At Shafter the firm of Schneider & Wikoff is a contractor in four fields: electrical, sheet metal, plumbing, and air conditioning.

Bid Depository Started In 1950

Manager Moy said the bid depository was started in 1950 by the plumbing contractors. Heating contractors came in about a year later. The year following the sheet metal contractors joined.

Electrical contractors joined in 1954. They had been operating a bid depository at the Builders Exchange for several years.

Bids are occasionally withdrawn after opening. However, subcontractors may not withdraw such bids except through the general contractor.

The depository has held public bid openings for the last four years. Prior to that time bids were deposited at a bank

but this did not prove satisfactory.

Moy said bid openings are often attended by architects, general contractors, interested subcontractors, quite a few representatives of architects, and consulting mechanical engineers.

Only 1 Bid Form Used

"On a job we use one bid form and they can bid one or any combination of trades when bidding," Moy said.

"I contact the architects about new jobs to see what

they have and when it is going to be bid. Then I make up the bid form for the job and notify all subs and generals when the sub-bids should be in.

"When the general picks up his bids he signs an agreement to actually use the lowest sub-bid he accepts in each of four fields. These are electrical; plumbing; heating and ventilating; and air conditioning; and sheet metal.

"Generals are invited to peruse all bids prior to signing of such agreement. Bids not accepted by the general are returned to the subcontractor."

(The End)

New Jersey RACCA-UA Trust Fund Found Tax Exempt by IRS

CLOSTER, N. J.—The Joint Industry Trust Fund of the RACCA-UA of New Jersey was declared tax exempt by the Internal Revenue Service of the U. S. Treasury Dept., it was announced here by Paul B. Hughes, executive manager of the fund.

The exemption for the fund, organized to further the apprentice training program in New Jersey, was originally

sought under Section 501(c)(3) of the Internal Revenue Code, which states:

"Corporations, and any community chest, fund, or foundation, organized and operated exclusively for religious, charitable, scientific, testing for public safety, literary, or educational purposes, or for the prevention of cruelty to animals, no part of the net earnings of which inures to the benefit of any private shareholder or individual, no substantial part of the activities of which is carrying on propaganda, or otherwise attempting, to influence legislation, and which does not participate in, or intervene in (including the publishing or distributing of statements), any political campaign on behalf of any candidate for public office."

Exemption was granted, however, under Section 501(c)(5) which exempts "Labor, agricultural, horticultural groups."

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What's the Future for Solar Heating?

GLORIOUS predictions for residential and industrial heating systems at no operating cost—via "sun machines"—have been rampant recently. What are the chances for sun-operated furnaces? Well: here's what we hear from those in the know.

Solar energy heating systems (collectors heat storage units, and fluid conductors) so far have not been able to compete with oil, gas, or coal on any economic basis. Moreover, presently commercial fuels must bolster sun-heaters (as required supplementary sources at night and on cloudy days) in all experimental installations of solar heating thus far attempted.

Purchaser of a solar "furnace" will pay at least twice as much as he would for a conventional heating system, by present reckoning. In addition it will cost him an estimated extra \$4,000 for the bulky apparatus needed to trap, store, and transfer those sunrays which fall on a rooftop—and congeal them into a "solar battery."

To be sure, solar energy eventually may heat and cool homes, cook food, boil water, and power refrigerators and air conditioning. But, for the visible future, householders should be advised to remain on friendly terms with electricity, oil, and gas suppliers.

Quite a few solar-energy houses are operating (who cares about costs?) in sun-favored Arizona, it should be noted. One, near Tucson, is displayed proudly by its builder and architect, Raymond W. Bliss, Jr. "Total yearly operating cost is outrageous," he admits, "but we love it."

And then there is a two-story, three-bedroom, sun-heated house with which the Massachusetts Institute of Technology is experimenting in the suburban community of Lexington. Twenty years of M.I.T. research have gone into this solar home, but it still costs far too much to operate.

Both the Arizona and the M.I.T. solar residential heating systems depend on a "flat plate" type of sunray heat collector. Each incorporates supplementary heat sources. The Arizona design plugs in a heat pump; while the M.I.T. home relies on a conventional oil-fired boiler.

Already it is obvious that a "flat plate" collector is not the final answer to the problem of concentrating the sun's diffused energy—plus raising it to working temperatures and storing said energy until needed—at anything like competitive costs.

Nevertheless, because it is the heart of most solar heating-system designs, the

M.I.T. "flat plate" collector is worth examining in detail. In the mass it is a large rectangle of glass, 40 ft. wide by 16 ft. high. It is set up at an angle of 60 degrees to the horizon. And it forms all of the visible roof and wall of the home's south side.

Intrinsically this sun-energy collector consists of two layers of glass, beneath which is a sheet of aluminum painted black to absorb heat. That huge glass surface permits the long heat waves of radiant energy to enter and warm the aluminum—but prevents them from passing out again.

Connected to the underside of the aluminum sheet are coils of copper tubing through which water circulates. This cool water absorbs heat from the aluminum, and then is pumped down to a 1,500 gallon basement storage tank through insulated tubing.

A heat exchanger—by means of which warmed air is blown through house ducts and registers—completes the cycle.

Prof. Lawrence B. Anderson, chief of the M.I.T. Solar Energy Conversion Project, reveals: "The heating system for this solar house costs about six times as much as a conventional one in terms of equal comfort."

Dismal fact is: The initial cost of solar heating will be too high for use by the average homeowner in the near future.

M.I.T. scientists night-after-night are working on this problem hopefully. Solar heat is inexhaustible, you see. And it isn't metered or taxed. Moreover, the 100 days of sunshine most American cities enjoy annually constitute the heat equivalent of all the coal, oil, and gas potential left underground in this tired old world!

Although solar energy may not contribute more than an estimated 10% of the world's heating requirements in the foreseeable future, THAT LITTLE will be well worth utilizing when fossil fuels (oil, coal, gas) diminish to the visibly-vanishing point.

A few brave souls believe that best method of sun-heating homes may be found in an entirely new direction—photochemical decomposition of water. What's that? Capsule revelation:

Sunlight can be utilized to separate water's hydrogen and oxygen components. These gases can be stored, and later fused to produce intense heat. Just a laboratory curiosity now, this chemical reaction ultimately may be the most economical form of heating yet discovered.

Don't sell the Sun short in terms of residential heating. But don't buy it too soon.

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Should Foreign Firms Get More Help?

REBEL ANSWERS
TAUBENECK

FORANI ANSWERS
REBEL

Los Angeles, Calif.

Editor:

"Learn to live and laugh," George Taubeneck starts out his interesting and humorous column, "Inside Dope." I would not miss this column for anything, and I read "Inside Dope" even before scanning the headlines.

So after reading Editor George's column in the August 25th issue, I looked at the Editorial page, and wow... there I saw my name, and I read the letter from the Editor to the Editor, and now I know how to lose customers to foreign competitors. . . !

Glad to say though that I am still living and laughing. . . Criticism, as long as it is constructive is wonderful, and even if it may be a little sharp I can take it, but born with the name "REBEL" I can also say that I am a very stubborn Rebel, and if I can take criticism I can dish it out too, especially when I feel that I am right!

In getting things "Off the Chest," Mr. Taubeneck states that I "attacked" Monsieur Forani of Belgium for "daring to report" that American firms delay answering inquiries. . . All I wrote is that I could not agree with Mr. T's remarks about Ms. Forani's complaints and if that is considered an attack on Ms. Forani I would suggest that Mr. T. carefully read my remarks again. And I would say the fact that Ms. Forani is an experienced engineer, directs other experienced refrigeration engineers and runs a big operation, coincides completely with my remarks that overseas distributors should be in a position

(See Rebel Page 13)

Etablissements H.V.H.
Refrigeration
Bruxelles, Belgium

Editor:

Enclosed herewith I am sending you an open letter to Mr. Albert Rebel, President of Recold International Corp., Los Angeles, in answer to his article in AIR CONDITIONING & REFRIGERATION NEWS, Aug. 4.

I leave it to your discretion to publish it in part or its entirety in one of your next issues.

Should you think, of course, that my arguments are of no great interest for publishing, I will not insist, but I believe publishing it would help a lot to promote trade between U.S.A. and the world, which after all, is the main point of publishing.

A. FORANI

Open Letter:

I read with great interest your article in the AIR CONDITIONING & REFRIGERATION NEWS, Aug. 4, and quite particularly your reaction to Editor Taubeneck's remarks pointing out what I was saying when he visited us in Brussels.

You are certainly right when you say that anyone who handles an important American product should be in a position to solve his difficulties himself, to maintain a good supply of replacement parts and give complete and efficient service. But you have passed in silence the duties and obligations of the manufacturer who in most cases ignores the export problems.

When I said that it takes from 10 days to several weeks to get a reply from U.S.A. headquarters about technical and service difficulties, this is per-

(See Forani Page 13)

REBEL - -

(Concluded from preceding page)
to give good service.

I must say I do like the way Mr. Taubeneck comes up for his very good friend Monsieur Forani.

Now the next point, Mr. T. seems to feel that my article, and I like the parenthesized "unwittingly does a practical disservice to uninitiated American exporters when it declares flatly that U. S. citizens are well beloved all over the world. . . . Hold your horses, Mr. T., and read again what I said; namely, "Don't let anybody say that all over the world Americans are disliked."

Okay, let's face it again! There are places where there may be a prejudice against America. But in those places there are also many good citizens who are perfectly willing to take us at face value, and I emphatically say again that we get what we give. Giving can be done in the wrong way too, and I am sure that Mr. Taubeneck knows as I do that the way our country has been giving away millions to other countries often results in the opposite from what it was intended.

The Frenchman has a wonderful saying, "C'est le ton qui fait la music." "It is the tune that makes the music." If we give graciously it will be gratefully received.

Since 1928 I have made a living in introducing American made refrigeration equipment in export—first commercial then industrial, and now for many years, air conditioning. I made the first sales in Hawaii in 1928 and since 1931 I have encircled the globe by steamer and by plane; I have made contacts in seventy-two countries and have made major sales in forty-eight countries. We have sold Recold industrial and air conditioning equipment all over Asia; in the Near East; in Europe and South America; North and South Africa, and even as far as New Zealand and Iceland. We have sold Warren commercial refrigeration equipment in practically all countries where U. S. dollars are available.

I claim the distinction of having sold the first complete super-market in many overseas countries. The September 1st issue of the News mentioned the first super-market in Singapore—I am very proud to be able to say that we have equipped this market completely with Warren commercial refrigeration equipment and self-service cases, and about 60 per cent of the additional equipment in this market comes from factories whom I represent as Export Manager.

ALBERT REBEL

FORANI - -

(Concluded from preceding page)
fectly true, and this I can prove with facts in hand. This is not my personal experience only but that of many other importers and exclusive distributors of very important and well known American manufacturers whose names, however, I do not wish to cite.

It will interest you to learn that we are now more than 25 years established in Belgium as importers and wholesalers for

American products, mainly Refrigeration and Air Conditioning, and we are proud to say that we are steadily progressing and expanding.

We have of course the necessary experienced staff to give service to our customers and help solve their problems and, besides, a very substantial stock on spare parts so as to assure prompt service. However, as I told Mr. George Taubeneck, we never get from the U.S.A. the technical and engineering help to which we are entitled, as we get here in Europe . . . even from small manufacturers working with a limited staff.

The majority of American touring visitors are merely salesmen with a very limited background of technical knowledge, and this is the weak point which is such an obstacle to development of sales.

The very fact that only a few American manufacturers are

considering to make translation of their literature and catalogues into French is in itself a big handicap.

Hoping to have the opportunity to make your personal acquaintance when on one of your next trips you will be visiting Brussels, I remain,

A. FORANI

P. S. I would strongly recommend you and other American manufacturers interested in the development of their export business to consider my arguments and, if stopping, for instance, in Denmark, to pay a visit to the Danfoss Manufacturing Co., Nordborg, or in any other part of the world where there is a Danfoss representative, as they will then get an idea of what kind of assistance the distributors get from the manufacturer for promoting sales and assure service.

A. FORANI

SEES GREAT INTEREST IN 'NEWS' OVERSEAS

Air Conditioning Div.
Remington Corp.
Auburn, N. Y.

Editor:

I have wanted to write before to express my interest and appreciation for the World Trade Issue. The contents of this special issue have been of particular interest to all of us at Remington, and much of the material will be useful during the months and years to come.

As I mentioned to your Mr. Price when he called on us, I have always felt that interest in your publication overseas is far greater than is indicated by your present foreign circulation, and your publication would be the logical one to continue emphasizing the importance of export to our industry.

I am leaving on my third trip around the world for Remington within two weeks (Have

Slide Rule—Will Travel) and shall see many of the people whom you have visited.

HEINZ O. SPIER,
Export Manager

'AROUND THE WORLD' PAMPHLET SUGGESTED

Ted Heath Refrigeration
Vinton, Iowa

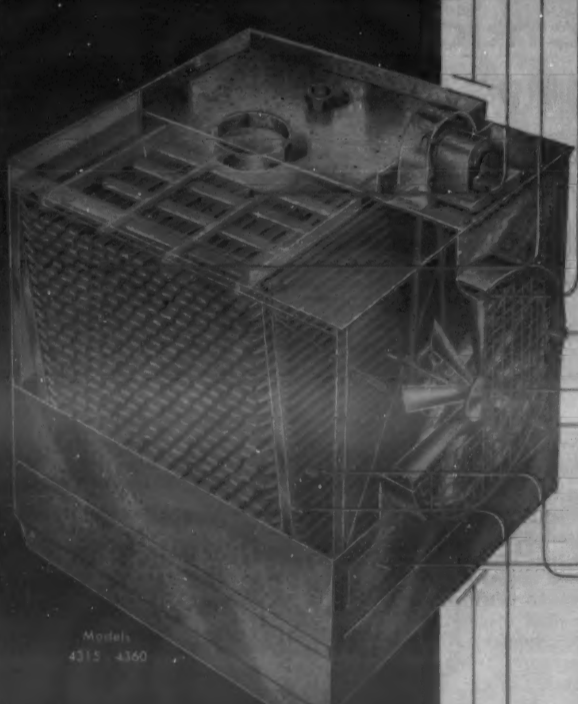
Editor:

Those many articles you wrote re "Around the World in 50 Days" were swell. Why not put them all in pamphlet form? I believe a lot of your readers would like that.


Another direction you might point that typewriter of yours in, is to help us small service companies to put these ice cream, milk, pop companies and beer distributors out of the service field.

TED HEATH

Only
MARLEY
AQUATOWER
includes all these
features that
assure efficient
performance
and long life

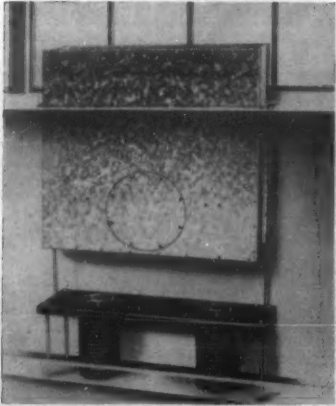


Models
4315 4340



The Marley Company
Kansas City, Missouri

- Hot dip galvanizing**
... results in a protective finish! Prevents corrosion and assures long life with minimum maintenance. Hardware is hot dip galvanized steel, stainless steel or bronze.
- Diffusion decks**
... assure up to six times the initial water break-up that can be attained without them.
- Filling cube**
... features more wetted surface area per cubic foot than any other tower of similar design.
- Fan venturi**
... good engineering practice dictated in use with the propeller type fan. Without it, fan would be noisy and entrance losses would occur.
- Marley type L fan**
... is hot dip galvanized and assembled with stainless steel rivets. Its 10 gauge blades make it the most rugged fan in use on towers of this design. Type L fan is non-overloading, does not overheat motor when discharging into wind.
- Stainless steel fan shaft**
... is mounted in heavy duty bearings on Marley Aquatowers. This assembly is proven in thousands of installations.
- twin access panels**
... provide easy access and cleanability through big openings on each side of fan.
- Drift eliminators**
... add life to mechanical equipment and keep the tower site dry. Air Inlet louvers assist in providing balanced air flow and prevent splashout of small water droplets.
- Deck stop angles**
... prevent fill cube from shifting during shipment. Without them splash bars become misaligned with resultant malperformance.
- Clamp-down design**
... permits quick disassembly and re-assembly for light bolt relocation at maintenance.



Attenuator Offers Quick Installation, Removal

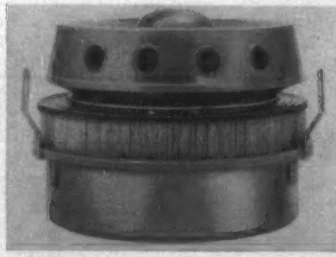
A new under-window model dual duct valve attenuator said to feature both quick installation and quick removal from the air conditioning system is offered by Connor Engineering Corp., Dept. AC&RN, Shelter Rock Lane, Dan-

bury, Conn. The unit when installed is completely enclosed in the wall. However, the company pointed out, it is not directly attached to the high velocity duct-work. Rather, it is clamped to a mounting plate by toggle bolts.

"Simply by loosening these bolts, the entire unit easily and quickly can be removed from the base plate through the top discharge grille opening," it was explained. "Necessity for access plate is thereby eliminated; and remote, more complete servicing of units is made possible and practicable."

A wide range of sizes assures proper selection of the unit that will give the precise air delivery, static pressure, and sound level essential for specific applications. Selection information, scale drawings, and description is available.

More details on the products described on this page may be obtained by writing the manufacturer at the address given in each story.

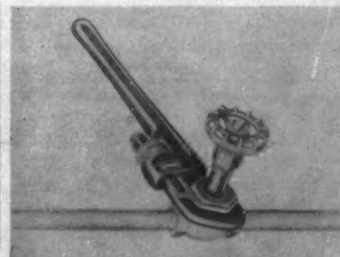


Walton Announces New Line of Humidifiers

A new line of humidifiers has been announced by Walton Laboratories, Inc., Dept. AC&RN, 1186 Grove St., Irvington 11, N. J.

The new models SF-10 and SW-5 incorporate the centrifugal atomizer which produces a fine water vapor without heat, it was pointed out. Model SF-5 embodies a new accordion filter featuring 620 surface areas.

The S-5 units evaporate a gallon of water per hour, according to the company.

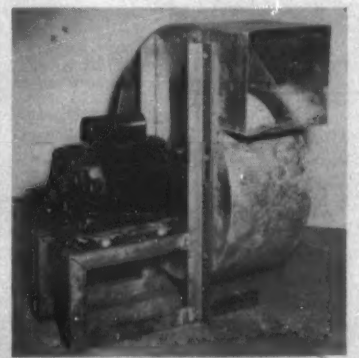


Angular Jaw Design Is Feature of Wrench

A new "Rigid" hex wrench with an adjustable four-sided jaw "that's easy to put on or take off" is a product of the Ridge Tool Co., Dept. AC&RN, Elyria, Ohio.

Angular jaw design is said to give more leverage plus time-saving, positive grip on hex nuts, square nuts, valve packing nuts, unions, and gas cocks.

The wrench is available in three sizes. No. 11 for 3/8 in. to 1/2 in., No. 17 for 1/2 in. to 1 1/4 in., and No. 25 for 1 in. to 2 in. nuts.



Lau Develops Blower For Inflatable Houses

Due to the growing interest in air houses—inflatable plastic structures—a specialized blower said to be capable of inflating a 40 by 80-ft. structure in less than 20 minutes has been developed by Lau Blower Co., Dept. AC&RN, 2027 Home Ave., Dayton 7.

The new blower features special wheel design, galvanized housing, and direct drive motor. There are two speeds—one for rapid initial inflation of high wind conditions and one for normal input to keep the structure up. Air delivery is 1,635 c.f.m. on high and 1,000 c.f.m. on low. Pressure range is from free air to 2.6 in. WG.

"Any angle of air discharge is possible, either clockwise or counter clockwise," it was stated. "Provision can be made for either side structure air entrance, or snorkel type air entrance. Standard motors may be used and the blower will operate with or without a leaf screen on the intake side."



Design Ice Cube Maker For Smaller Users

A new, compact 110-lb. capacity automatic ice cube maker is being introduced by Frigidaire Div. of General Motors Corp., Dept. AC&RN, Dayton 1.

The slant-fronted model (CMZ-11) is designed for smaller establishments with limited ice usage or to augment the output of larger units. It can be equipped with cutting grids to make 1 1/2 by 1 1/4 in. cubes, or 3/4 by 3/4 in. cubelets in a variety of thicknesses.

Finished in copper-tone and light beige, the new unit is 30 in. wide, 29 1/4 in. deep, and 38 1/2 in. high. Only simple water, drain, and electrical connections are necessary, and all plumbing connections can be made at the bottom, side, or back of the cabinet, Frigidaire said.

GET MORE BUSINESS FROM EVERY BUSINESS



with GENERAL ELECTRIC'S Complete Air Conditioning Line

Stores, offices, office buildings, factories—large buildings and small ones—old buildings and new ones! Every business is a prospect for General Electric Commercial and Industrial Air Conditioning because the G.E. line is complete—and flexible.

G.E. Zone-by-Zone Concept Gives You Big Sales Advantages

General Electric's Zone-by-Zone concept puts you way ahead in selling points over field-assembled systems. *Planning is simplified*—no need for equipment rooms—minimum need for fittings and piping—no long duct runs—maximum saving in floor space. *Economies are substantial*—no major alterations or serious interruption to business during installation—no shutdown of entire system for maintenance, units are individually serviced—no heavy initial outlay—financing to meet individual budgets.

Chart Your Progress With G.E.'s Blueprint For Leadership

A complete line of quality products is only the beginning! General Electric's BLUEPRINT FOR LEADERSHIP Plan gives you much more! Attractive financing plans—for you—for your customers! A course in selling—national advertising and promotion—guided local advertising and promotion—plus the selling power of the General Electric name. Every-

thing it takes to assure the leadership position for General Electric dealers. Why not plan your future with G.E.? Contact your nearest General Electric distributor—you'll find him listed in the yellow pages of your telephone directory...or mail coupon today. General Electric Company, Air Conditioning Department, Troup Highway, Tyler, Texas.

Progress Is Our Most Important Product

GENERAL ELECTRIC

General Electric Company
Air Conditioning Dept.
Troup Highway, Tyler, Texas

ACD 19

I am interested in signing up with General Electric so that I can benefit from G.E.'s Blueprint for Leadership Plan.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____



AIR-COOLED CEILING-MOUNTED SPLIT SYSTEMS. Remote condensing unit may be placed anywhere, indoors or outdoors. Capacities 3 to 10 tons.



SELF-CONTAINED CEILING-MOUNTED UNITS—Air- and water-cooled 3 to 7 1/2 tons.



FLOOR-MOUNTED UNITS—Water-cooled, self-contained 3 to 30 tons—air-cooled split systems 10 to 20 tons.

Heating coils may be added. All units covered by General Electric's 5-year warranty on sealed motor-compressor.

MARSH Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

PRESSURE GAUGES and Dial Thermometers for all services.

MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.

MARSH INSTRUMENT COMPANY

Sales Affiliate of J. P. Marsh Corporation
Dept. D, Skokie, Ill.

Report on Education

Another article in a series dealing with all levels of education and training in the air conditioning and refrigeration industry.

By Frank J. Versagi, Technical Editor

4. Trade Schools

Critics of such private trade schools point out that since the schools are in business for the money they are not likely to turn down any students. This may or may not be true in individual cases, but the point is that here is an educational opportunity for a type of individual who finds all other educational institutions closed to him.

It is begging the question to suggest that the man finish his formal schooling first, then go to an accredited school. For the men who most need the training that trade schools offer are usually not those who have the ability or the wherewithal to engage in a long-term self-improvement program.

Since many of these people who would like to take trade courses are not able to give up their jobs for the three months or so needed to complete the course, quite a few trade schools offer a combination correspondence course-shop course curriculum. In these cases, the student first completes a series of home study lessons, then comes to the school for one, two, or three weeks of actual shop training.

Those considering this type of school should watch costs carefully, for schools offer different lengths of shop training, and the prices of the courses are not always in line with what is offered. Some such schools include the cost of bus fare to and from the school.

Trade school night courses are also convenient for many.

Correspondence schools, as a group, will be discussed next. At this time, however, consider Table 4 which shows the kind of training available at typical trade schools.

This level of education is not complete without some discussion of the public trade or technical school—usually a high school specializing in the trades like air conditioning, automotive, welding, and the like.

As mentioned earlier, the public trade school teaches the same subject matter as the private trade school, but takes longer to do it, and costs the student a lot less.

A good example of this type of school is Cass Technical High School in Detroit. The course is operated under supervision of Carl Turnquist, co-author of "Modern Refrigeration and Air Conditioning," a text which has found the nearest thing to universal acceptance in the industry for trade level teaching.

In spite of a limited budget and a lack of modern equipment, Cass' instructors, both professional teachers and industry teachers, are doing what is considered to be a very good job of turning out adequately trained people by industry leaders in the Detroit area. In fact, the Cass course is being considered by the local joint apprenticeship committee as required training for indentured apprentices.

Generally speaking, the longer public trade school course covers more theory while giving a good shop education as well. This type of course is ideally suited to those already in some phase of refrigeration or air conditioning, but who want a little broader background.

A typical three-month trade course at a private school will cost about \$250 to \$400.

Some schools give tools as part of the course, while others do not. Some claim more modern equipment or other advantages.

Public trade school, whose courses take longer to complete,

may run as high as \$100 for all the subject matter, although the cost per unit for residents is usually on the order of \$5 to \$7.

American Society of Refrigerating Engineers occasionally publishes a list of trade and other schools offering cooling courses. Lists more than one year old, however, will be misleading because of the frequent changes in curricula. Public libraries and the yellow pages of the phone book have school lists.

In picking a trade school, the prospective student's wisest move is to check with contractors, dealers, or servicemen in the area to determine their evaluation of a particular school. Talk to more than one or two so that you are not misled by a strong friend or enemy of the school.

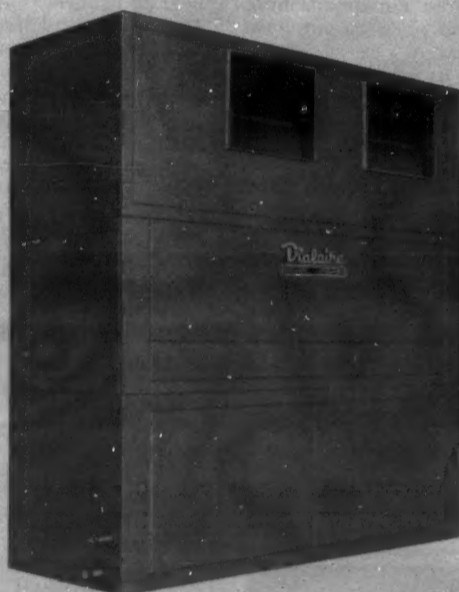
(To Be Continued)

Table 4—Typical Trade School Courses

Industrial Technical Schools—Boston	
Domestic Refrigeration—Sealed Unit Servicing & Repair—Electric Motors—Physics of Refrigeration—Commercial Refrigeration—Service Engineering—Electrical Controls—Air Conditioning.	
Greer Shop Training—Chicago	
Domestic Refrigeration Theory and Shop:	Commercial Refrigeration Theory and Shop:
thermal laws, absolute and gauge pressures, condensing units, refrigeration gases, oils, compressor repair, motor repair, trouble shooting.	heat load calculations, estimating costs, commercial valves and accessories, heat exchangers, sealed units, relays, use of sight glass and drier, pumping down and balancing.
(Above are partial descriptions of offerings.)	
Utilities Engineering Institute—Chicago	
(List prerequisite as 8th grade or equivalent.)	
Refrigeration Theory and Shop: study of heat and cold, compressors, evaporators, pressure controls, thermostats, handling tubes and fittings, leak testing, pumping down, charging, compressor overhaul.	Air Conditioning Theory and Shop: properties of air, air handling and duct systems, filters, fans and blowers, psychrometric chart, instruments, balancing systems, servicing techniques.
(Above are partial descriptions of offerings.)	
Compare these courses with those in Table 3.	

IT'S ALL NEW! IT'S DIFFERENT! IT'S THE

Dialaire



THE MODERN PACKAGED AIR CONDITIONER
FOR LOW-COST YEAR-ROUND COMFORT

3 Models—9 Sizes, 15 through 100 Tons,
for Real Zone Conditioning of

STORES • OFFICES • FACTORIES
INSTITUTIONS • SHOPPING CENTERS

3 Models to Choose From

Model WCD

Water-cooled. Easily adapted to water tower application

Model WSD

With Built-in water-sewer. Requires only meager make-up water

Model ACD

With matched air cooled condenser. For application where water use is restricted, or water costs prohibitive

THE Dialaire IS

QUALITY ENGINEERED IN EVERY FEATURE!

It's VERSATILE — Optional fan discharge arrangements. Many models thin enough to pass through 30" opening. Optional accessories for more exacting cooling and heating.

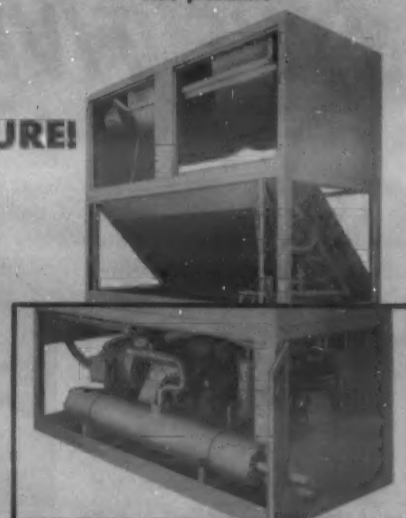
It's EFFICIENT — All components — coils, compressor, condenser, fans, controls — are matched and balanced for smooth operation, providing maximum cooling per ton with minimum horsepower requirements.

It's QUIET — Husky, forward-curved fans (NAFM rated) for smooth, effective operation, deliver air at low outlet velocities.

It's DURABLE — Skillfully fabricated of highest quality materials. Electrically welded angle iron frame, 16-gauge bonderized panels, conditioner section insulated with 1½" permanent insulation. 16-gauge sloping drain pan assures positive drainage.

It's COMPLETELY FIELD SERVICEABLE — Components are readily accessible for quick and easy servicing.

Plus Many More Outstanding Features



Send Coupon Today for
Complete Mechanical Specifications

Dialatemp CORPORATION
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DIALATEMP CORPORATION

706 Chestnut St., St. Louis 1, Mo.

Please send me a copy of Bulletin 50 on your new Dialaire Air Conditioner

Name.....

Company.....

Address.....

City..... Zone..... State.....

Commercial, Industrial Air Conditioning Survey Defines Potential Market

5 — NON-OWNER'S VIEWS, • 3½ Million Establishments PLANS FOR PURCHASE • Without Air Conditioning

Getting into the area of non-owner's opinions and plans for purchase, the survey says that on a projected basis, there are nearly 3½ million commercial and industrial establishments in the U. S. without any refrigerated air conditioning.

To find out the extent of non-owner's knowledge of air conditioning and how much they had thought about installing it, the question was asked "have you ever seriously considered putting air conditioning in any part of your space?"

Only 15% Have Considered Cooling

Although only 15% reported having considered air conditioning, it is still an encouraging finding because that represents something more than half a million establishments who have taken the first step to purchase. At the same time, it points up the tremendous selling job yet to be done.

The extent of the interest of non-owners was highest in the industrial segment. This and

other findings, states the survey, would seem to indicate a more rapid growth rate in the industrial market at the present time than in the other two segments.

Personal, business and repair services, and "all other retail" would seem to offer the greatest opportunity in the retail categories, primarily because of the greater number of these establishments.

The only real significant variation in what is otherwise a fairly uniform pattern of the extent of consideration by non-owners is found when the answers were analyzed by size of establishment. From the tabulated results it can be seen that the interest in air conditioning by the largest size establishments is nearly four times as great as that of any other group of establishments taken as a whole.

This radical departure from the pattern would appear particularly significant in view of the fact that growth to date has been much greater in the larger size establishments. This

would seem to indicate that large establishments without air conditioning are top prospects for selling.

What this might mean in terms of equipment is also pointed up. Using the same averages as in some other calculations—if an average of four employees is assumed for the smallest size establishments, the 420,000 small size establishments who have considered air conditioning would house 1,680,000 people. If an average of 500 employees is assumed for the largest establishments, the 8,000 large establishments who have considered air conditioning would house 4 million people.

When a business establishment has arrived at the point of seriously considering air conditioning, there would appear to be a very good chance of turning this interest into an actual sale, the survey indicates. Roughly half of those who reported they had considered air conditioning said they had plans to purchase within a year.

"It seems to point up the sell-

Complete results of its survey on the Commercial and Industrial market for air conditioning have recently been released by the Freon Products Div. of Du Pont. Because it offers much that will be useful to all who are concerned with the sale of equipment to this market, the NEWS is publishing a condensation of the complete survey in a series of articles. This is the final article in the series.

ing job to be done," it is observed. "The decision to purchase commercial and industrial air conditioning is undoubtedly one that takes considerable time. Although it is always desirable to close a sale as soon as possible, conceivably, sales effort over an extended period might be required to bring a prospect up to the point of seriously considering installation."

Main Stimulus Coming from Buyers

It was found in questioning the owners that the main stimulus for purchase had apparently been coming from the buyers. Findings on the extent of selling effort on non-owners would appear to confirm that fact.

There were considerable variations in extent of sales coverage among non-owners by the various categories of the market. The greatest has been in some of the retail categories, lowest among some of the other commercial establishments, notably institutions.

Many areas would seem to require further attention. One that might be cited is offices where sales coverage has been relatively low.

An analysis of those places where salesmen had called and those where no call had been made showed that a salesman's call had definitely stimulated interest in the purchase of equipment.

"Among those firms where salesmen have called," it is reported in the survey findings, "two and one-half times as many are considering air conditioning as among those firms

where no salesman has ever called. Since there is a high conversion of interest to sales, these salesmen will undoubtedly be well paid for their time and effort."

In analyzing the obstacles to purchasing, the findings on non-owners who had considered air conditioning but had decided not to buy would appear to be particularly significant, the survey states, because these prospects had, at one time or

(Concluded on next page)

SPECIAL DELIVERY BY ROCKET?

No, we aren't using the new ballistic missiles yet, but maybe some day. In the meantime, Harry Alter gives you the fastest possible service. Your orders are handled with careful speed. Complete inventories and streamlined methods assure truly snappy service.



We're Real Specialists in
REFRIGERATION • AIR CONDITIONING • ELECTRIC MOTORS
SUPPLIES and PARTS

SAVE MONEY, time and effort by ordering from our new *Dependabook*, the most complete catalog of all. 160 pages. Over 10,000 items carried in stock. Wholesale only. Your orders filled really fast by mail, or picked up at one of six big warehouses.

Write on your letterhead for the 1959 *DEPENDABOOK* . . .

Also our monthly *Flyer* of surplus and close-out bargains.

The HARRY ALTER CO., Inc. — Chicago 18, Ill. — New York 12, N. Y. — Dallas 7, Tex. — Atlanta 10, Ga.
— St. Louis 8, Mo. — Philadelphia 1, Pa. — Los Angeles 10, Cal. — San Francisco 1, Cal.
FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES

SAVE FIVE WAYS WITH FRICK

• WATER

Evaporative condensers take advantage of the heat absorbed in the evaporation of water—saving water and power to pump it.

• LABOR

Superior design and better materials (galvanized throughout) make Frick condensers more efficient and easier to maintain.

• TIME

Frick-Mollenberg controls are automatic—save time and keep condenser operating steadily in all kinds of weather.



• POWER

Ample cooling surfaces and conservative ratings enable Frick condensers to lower the condenser pressure and temperature and save power.

• MONEY

Reasonably priced and far more durable, they are economical to own and operate. A stock item, they are available for immediate shipment.

Frick Company manufactures a complete line of air conditioning and refrigerating equipment, designed for your individual requirements.

DEPENDABLE REFRIGERATION SINCE 1882
FRICK CO.
WAYNESBORO, PENNA., U.S.A.

WRITE FOR YOUR FREE COPY OF THE NEW BULLETIN 234 TODAY

BANISH STUCK PUMPS!

↓ GET ↓

PUMP AID

Now is the time to prevent stuck pumps . . . expensive and time consuming repairs next Spring—your BUSY season! After draining pump, simply inject PUMP AID into pump housing through drain hole. Aerosol packaged PUMP AID EXPANDS to cover all interior surfaces. At start-up time—just throw the switch and your pump is running. PUMP AID is water soluble and washes away. Easy-to-follow directions on each can. May be used in any make or model pump.

PUMP AID . . .

- PREVENTS CORROSION
- PRESERVES SEALS
- WILL NOT FREEZE
- WILL NOT EVAPORATE
- IS WATER SOLUBLE
- IS NOT TOXIC
- IS EASY TO USE
- IS REASONABLY PRICED

Order by the case of twelve cans today from your dealer and be prepared when shut-down time comes. Or write . . .

Vapco Complete literature on request to see your dealer. 033471
GARMAN COMPANY
ST. LOUIS 28, MO.

Extent to Which Non-Owners Have Considered Air Conditioning (% of Total)

	Retail	Other Commercial	Industrial
Have considered	14%	17%	20%
Have not considered	86%	83%	80%

Extent to Which Non-Owners Have Considered Air Conditioning In Retail Establishments (% of Total)

	Food & Drug	Eat & Drink	Personal Business, Repair Service	All Other
Have considered	17%	13%	12%	15%
Have not considered...	83%	87%	88%	85%

Extent to Which Non-Owners Have Considered Air Conditioning In Other Commercial Places (% of Total)

	Offices In Office Bldgs.	Hotels & Motels	Institutions	All Others
Have considered	20%	18%	15%	14%
Have not considered	80%	82%	85%	86%

Extent to Which Non-Owners Have Considered Air Conditioning by Geographic Area (% of Total)

	Northeast	North Central	South	West
Have considered	16%	12%	21%	10%
Have not considered	84%	88%	79%	90%

Extent to Which Non-Owners Have Considered Air Conditioning by Number of Employees (% of Total)

	0-7	8-49	50-249	250 & over	Not Specified
Have considered	14%	23%	15%	75%	7%
Have not considered...	86%	77%	85%	25%	93%

The Ready-To-Buy Market Is Large

When all those who reported considering air conditioning were asked if they had plans to install any air conditioning within the next year—this is what they said:

	Retail	Other Commercial	Industrial
Plan to install within next year....	55%	40%	46%
Do not plan to install within year or not specified	45%	60%	54%

Selling Effort In the Commercial and Industrial Market Would Appear to Stand Improvement

All non-owners were asked if anyone had ever called on them for purposes of selling air conditioning—this is what they said:

Type of Place	Salesmen Have Called
Retail food and drug.....	30%
Eating and drinking.....	26%
Personal, business, and repair service	15%
All other retail.....	24%
Offices in office buildings..	20%
Hotels and motels.....	24%
Institutional	12%
All other public occupancy..	14%
Industrial	19%

The Non-Owners Who Had Never Considered Installing Air Conditioning Gave the Following as Their Reasons

(Expressed In Percentages)

Reasons	Own	Rent
Can't afford it	25	25
Building is leased or expect to move.....	5	18
Don't need it	12	15
Use large fans	11	8
Expect to go out of business	8	7
Climate doesn't require it	8	4
Business conducted out-of-doors	7	5
Building unsuitable	6	5
All others	35	32
No answer or don't know	2	1

Industrial, Commercial Cooling Survey--

(Concluded from preceding page) another, seriously considered installation.

By far the leading objection seemed to be one of cost or the feeling that air conditioning is too expensive. "This would seem to indicate that they had not been adequately sold on the benefits and values they would receive for their investment," the survey makers declare.

Among renters, the fact that they rent is given as a leading reason for not purchasing. However, it was seen earlier that two thirds of all present owners are in rented establishments so this would seem to be another objection that might be overcome by aggressive selling effort.

"All of these objections would

seem to suggest selling appeals and sales arguments," it was noted. "There are none of the reasons advanced that can't be answered with facts."

The reasons given by non-owners who had never considered air conditioning appear to be quite specific. These might almost be considered excuses since they are in terms of why

they had decided against air conditioning and would seem to indicate an active interest in the subject rather than a passive one.

Actually, an analysis of these reasons would indicate many misconceptions. This is not surprising considering the lack of direct selling effort. Everything would seem to point to the fact that the field is wide open for creative selling.

(The End)

Where Salesmen Have Called It Has Served to Stimulate Interest

	Have Called	Have Not Called
Have considered air conditioning ..	28%	12%
Have not	72%	88%

The 8% of Non-Owners Who Have Considered Air Conditioning But Aren't Planning To Install Gave the Following Reasons for Deciding Against It

(Expressed In Percentages)

Reasons	Own	Rent
Financial reasons (too expensive)	50	40
Don't own building (or) expect to move soon..	7	20
Building not suitable for air conditioning...	5	13
Type of work does not warrant air conditioning	6	7
Building is old, not worth investment	3	3
Don't need it	5	2
Present methods adequate	7	2
All other reasons	14	15
No answer or don't know	1	4

Note: Answers add to more than 100% because some respondents gave more than one reason.

ADMIRAL Upside-Down Dual-Temp REFRIGERATOR-FREEZER



with **KLIXON** Dome-Mounted PROTECTOR

offers continued customer satisfaction

Dependable operation is a must with refrigerator-freezers. As Admiral Corporation says: "You can't refrigerate or store frozen food with a refrigerator that shuts down too much on seasonal overloads."

To prevent this, Admiral, in designing its new Model IMP 1390, specified and used compressors equipped with KLIXON Inherent Overheat Protectors — which permit the compressor to develop maximum safe cooling capacity and prevent nuisance trippouts under any overload.

If you manufacture refrigerators or refrigeration equipment, specify KLIXON Refrigeration Controls — motor protectors, motor starting relays and hermetically sealed thermostats. Check with the compressor salesman when you place your order — or we will gladly send descriptive literature if you'd like to have it.

KLIXON Refrigeration Controls Include:

KLIXON Dome Mounted Protectors develop all the capacity available in a hermetic compressor under overheat conditions — shut the motor down only when maximum allowable winding temperature is reached — automatically restarts it when operation can be resumed safely.

KLIXON Motor Starting Relays complete the combination required to start and protect hermetic motors. Their positive action and long life eliminate starting troubles.

KLIXON Hermetically Sealed Bimetal Thermostats give spot temperature control, unaffected by altitude or cross ambient temperatures. Easily installed... they can be used for automatic or manual reheat heating or cooling operation.



In Air Conditioners, too, Admiral depends on KLIXON Motor Protectors for maximum safe cooling capacity. This is Admiral's new 2HP Imperial Model 200M23.

METALS & CONTROLS CORPORATION
Spencer Division 2409 Forest Street, Attleboro, Mass.

KLIXON

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GAS DUCT FURNACES

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10 YEARS

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ALSO GAS POWER BURNERS
From 70,000 to 4,400,000 B.T.U.
Ask for Bulletin A2-98-B

HASTINGS AIR CONTROL, INC.
OMAHA 5, NEBRASKA

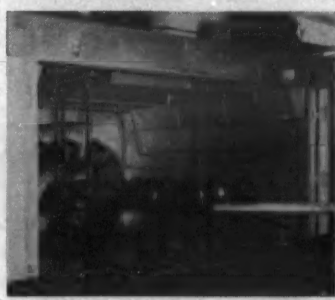
World's Largest Independent Hermetic Rebuilder Expands Operations In Newly Equipped Plant



COMPLETELY air conditioned section houses eight fully equipped test and work benches for the actual repair of hermetic units in new plant of Sealed Unit Parts Co.



VOLUMETRIC efficiency of rebuilt hermetic is tested by Victor Perez as Henry Ehrens (left), president of Sealed Unit Parts, checks procedure.



REBUILT units are thoroughly dehydrated overnight in big oven held at 245° while heated dry air is pumped through them. Here Howard Roth is loading oven and connecting units to air lines.

By C. Dale Mericle

NEW YORK CITY—Can the independent rebuilder of hermetic compressors do as good a job as the prime manufacturer?

Some interesting thoughts on this question could result from inspecting the new rebuilding plant opened here recently by Sealed Unit Parts Co., claimed to be the largest independent hermetic rebuilding plant in the world.

From a mere 2,000 sq. ft. formerly occupied for this purpose, Sealed Unit Parts now has 24,000 sq. ft., of which 11,500 sq. ft. are devoted to hermetic rebuilding and include motorized conveyor lines, air condi-

tioned rebuilding quarters, and numerous other features.

Range of sizes handled has also been broadened. The firm now rebuilds large hermetic compressor units up to and beyond 15 hp. Bulk of the rebuilding work, however, is still in the smaller sizes, for which the company has a capacity of 100 units in a normal working day.

Besides the rebuilding work, the new quarters also house under the same roof the system repair and rebuilding activities of the associated firm Franchised Air Conditioning Co., formerly located in another building.

The latter handles in-warranty

and out-of-warranty repair work on all types of air conditioners and refrigeration equipment, including vending machines, household refrigerators, room and package air conditioners.

Quarters in the new building occupied by Franchised are somewhat larger than at the previous location, permitting a lengthening of lines and improvement of facilities. Its general setup, though, is essentially the same as was described in detail in the March 18, 1957, issue of AIR CONDITIONING & REFRIGERATION NEWS.

Many changes, however, have been incorporated in the hermetic rebuilding operations of Sealed Unit Parts.

A motorized, overhead conveyor, for example, now transports the "domes" from the shipping-receiving area through the work area and back again. This conveyor is about 500 ft. long. The shop area also includes another 300 ft. or so of roller conveyor.

Unless a unit is tagged for a preliminary diagnostic check (such a test is standard with units still in warranty), it goes directly from the receiving room via the conveyor to a booth where the shell is opened.

Most units are opened on a 20-in lathe, but some are cut open with a pneumatic chisel or Frankel grinder. In any event, this work is done in a booth which has been specially soundproofed for obvious reasons.

From the cutting booth opened units move on a roller conveyor into the rebuilding room proper. This is a totally enclosed room measuring 15 by 60 ft. which is air conditioned. Air pumped into this room is thor-

oughly filtered, dehumidified, and tempered. The first two functions provide a clean, dry atmosphere in which to rebuild the units; temperature control is primarily for benefit of the employees.

In this room there are eight benches designed to accommodate two men apiece—one to handle electrical tests and repairs, the other to make mechanical repairs.

If upon visual inspection after being opened, a unit shows any sign of having burned out, the stator is removed and all parts sent through a chemical cleaning bath. If only a mechanical failure such as a broken connecting rod, valve, etc., is involved, the cleaning process is by-passed.

Incidentally, rewound stators needed for some units are kept stored in an electrically heated room until used.

Following cleaning and/or repairs, the bearings are tested for tolerance while bone-dry and then lubricated with a special lubricant that won't break down in the 245° F. heat applied in the oven during the

(Concluded on next page)

NOW... FROM REMCO MOLECULAR SIEVE FILTER-DRIERS with DEPTH FILTRATION



Utilizing advanced design Molecular Sieve cartridges, these new Remco Filter-Driers combine unequalled drying efficiency, effective acid removal, generous flow capacity and depth filtration.

The massive depth filter completely removes all scale, sludge, carbon and other particles as small as 100 microns. Molecular Sieves adsorb and retain large quantities of moisture even at refrigerant temperatures of 140F, and keep moisture concentrations below 10 ppm. Acids are reduced far below dangerous corrosion limits.

Compact in size, the filter-driers are U/L Approved and may be used for Refrigerants 12 or 22, Carrene or methyl chloride. Working pressure is 500 psi; minimum bursting pressure, 2500 psi.

REPLACEABLE CARTRIDGE TYPE units use an "O" ring for a positive, leakproof flange seal. From 3 to 40 tons, with 3/8" thru 1 1/2" sweat connections.

SEALED TYPE filter-driers are available in 1 to 12 tons, with 1/4" thru 3/8" flare and 3/8" thru 1/2" sweat connections.

"T" FITTING TYPE in 2 to 6 tons, are readily adaptable to systems using conventional "T" driers.

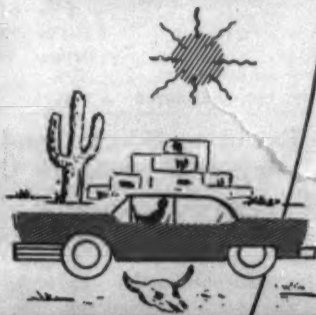
Remco Molecular Sieve Filter-Driers are available at leading wholesalers. Ask your wholesaler for more information, or write for Bulletin MS-1. Remco, Inc., Zelienople, Pa.

REMCO

MANUFACTURERS OF ADVANCED REFRIGERATION PRODUCTS

Filter-Driers • Liquid Indicators • Receiver-Driers • Check Valves • Safety Devices • Frost-Tite Flare Nuts

The standard
of the industry—



PRIMORE Automotive Air Conditioning VALVES

Primore's engineers have developed a full line of Compressor Pad Valves and Fittings for Automotive Air Conditioning units. In addition there are Primore designed valves for such components as Condensers, Receivers, Evaporators, etc.

THEY'RE BEST BECAUSE—

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- Precision manufactured
- Cost Cutting Hydrogen brazed steel construction



FREE—
Primore Refrigeration Valve Catalog, giving full details and description. Fully illustrated.

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REFRIGERATION
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the perfect "set-up" for more draft sales

Beverage-Air

DIRECT DRAW COOLERS

• New —
Refrigerated
"Utility"
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Compact, Functional
Designs for
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• New — Trouble Free
System Eliminates
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Here are coolers that are boosting draft sales right across the country. Big, roomy Beverage-Air Coolers that hold up to 3 kegs on top, 1 on storage and 3 to 4 cases in "Utility Compartment." They offer the best balanced cooling system available—assure low cost cooling from keg to faucet valve. All models with stainless steel tops and stainless or baked enamel sides and ends.



Model DD 62-S

Write for complete catalogue data—FREE.
Ask about Beverage-Air Ice Maker Coolers

BEVERAGE-AIR

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FACTORIES: Punxsutawney, Pa., Spartanburg, S. C.

WAREHOUSES: Pittsburgh, Pa.; Trenton, N. J.; Memphis, Tenn.

Rebuilding Plant-- Compressors--

(Concluded from preceding page)

final dehydration process.

Rebuilt units are now tested for electrical performance and volumetric efficiency before the shell is rewelded.

Test panels devised by Henry Ehrens, president of Sealed Unit Parts, permit electrical tests for grounds, shorts, locked rotor, starting and running current, etc.

To make these tests the operator merely has to connect the three leads (start, run, and common) from the unit to terminals on the board. All the tests are made by pressing push-buttons. Even automatic switching from start to run windings is provided in the panel.

Three meters, each protected by a circuit breaker, are mounted in each test panel. One measures volts; the second shows amperes up to 50 to check starting and locked rotor amperage; the third measures running amperage up to 10 amps.

The running ammeter, by the way, is so wired into the circuit that it can be cut in only after the unit is started.

Three starting capacitors of 50, 150, and 250 mfd. (or any combination of these) and a running capacitor are also provided on each panel.

Volumetric efficiency of each compressor is determined by checking two gauges, one of which shows air input to the compressor while the other shows air output.

Air for these tests comes from a compressed air supply that is dehydrated down to a -70° F. dewpoint. The same system also supplies dry air for the oven dehydration process.

An entirely separate compressed air system supplies other shop needs, including the air chisel for opening shells, etc.

After the rebuilt unit has satisfactorily passed all these tests, it is placed on a conveyor feeding the welding booth where the shell is rewelded together. At the present time Sealed Unit Parts is completing the installation of a heli-arc welding system.

Dehydration follows welding. The large direct-fired gas oven of 750,000 B.t.u. capacity will hold up to 100 units of 3-hp. size and under or eight of the largest commercial hermetics. The oven can reach 245° from 70° F. in seven minutes.

Standard dehydration process calls for heated dry air to be passed through the units while they're held at 245° in the oven. Provision is also made for periodic evacuation of units while they're in the oven. The latter procedure is limited mostly to commercial size hermetics as specified by the manufacturer. Dehydration is done automatically overnight.

Units then receive a charge of oil from a sealed oil supply (as oil is removed, the drum is filled with dry air) and move to the final test bench where they're checked again for electric and volumetric efficiency and the various readings noted on a permanent record card.

An overhead conveyor now takes the rebuilt units through a paint dip tank on their way to the shipping-receiving room.

(Concluded from Page 1, Col. 2)

1957, to bring the total five-month figure up to with 23% of 1958.

June shipments, totaling 333,642 units, were only about 3% under June a year ago, with the result that the six months' total came up to 2,139,885 units, compared with 2,710,680 in the first half of 1957.

Another trend indicator, ARI said, is found in the fact that, for the first time in 1958, the June release shows compressor bodies for use in automotive air conditioning ahead of the corresponding month in 1957—49,446 this year against 44,899 last year.

The figures, which cover bodies for compressors used in all air conditioning and refrigeration equipment except household refrigerators, were compiled from reports to ARI by manufacturers whose output is estimated to be in excess of 95% of the industry, the institute said.

Figures for the various categories, together with the names of reporting companies, are given below:

MANUFACTURERS' SHIPMENTS OF COMPRESSOR BODIES PRODUCED BY REPORTING COMPANIES

(Except for household refrigerators)

Horsepower*	June, 1958	Jan., 1958	Jan., 1957
Under 1/2	1100,098	1687,094	254,343
1/2	19,685	105,750	127,325
3/4	25,260	128,551	57,057
1	6,470	40,082	235,719
1 1/4	55,643	494,099	719,723
1 1/2	23,687	173,969	179,255
2	26,887	202,174	163,150
3	11,749	65,263	96,247
5	8,059	40,682	49,906
7 1/2	4,493	19,952	30,553
10	1,217	5,863	7,283
15	685	2,636	1,922
20	182	982	1,327
25	243	996	1,088
30	150	859	
40	265	907	
50	126	686	23,826
60	101	510	
75	62	369	
100 & over	31	229	
Total	294,073	1,071,753	2,407,231

For Automotive Air Conditioning

Total .. 49,446 267,234 302,502

For Ammonia Refrigerant

Total .. 122 822 797

Grand Total .. 333,642 2,139,885 2,710,680

*For all refrigerants except ammonia (excluding units for automotive air conditioning).

†Combined in order to avoid disclosing the figures of individual companies.

‡Breakdown of 30 hp. and over not available for 1957.

Reporting companies: Airtemp Div., Chrysler Corp.; Bendix-Westinghouse Automotive Airbrake Co.; Brunner Div., The Dunham-Bush, Inc.; Carrier Corp.; Copeland Refrigeration Corp.; Curtis Mfg. Co.; Refrigeration Div.; Frick Co., Inc.; Frigidaire Div., General Motors Corp.; General Electric Co.; Kelvinator Div., American Motors Corp.; Lehigh, Inc.; Tecumseh Products Co.; Trane Co.; The Vilter Mfg. Co.; Westinghouse Electric Corp.; Worthington Corp.; York Div., Borg-Warner Corp.

This summary includes all compressor bodies shipped by the reporting companies regardless of whether they were shipped separately or incorporated into a condensing unit or unitary end-use product (such as a room air conditioner, display case, freezer, or commercial refrigerator). Shipments for export are included. Shipments for household refrigerators are not included.

In order to avoid duplication of reporting, shipment figures were requested only from companies that assembled the machined compressor casting with the components necessary to make a complete compressor or motor-compressor assembly.

BTU Consumption Meter--

(Concluded from Page 1, Col. 4)

ing on a square foot basis would not be equitable, because the temperature in each terminal would not be equal nor the period of operation the same. In addition, the terminal buildings will be of different construction with varying heat transfer characteristics.

Two Pollux B.t.u. meters furnished by Air Conditioning Equipment Corp. of New York have been installed in the Port Authority's Operations building to show the authority how much it is costing to heat and cool its own building.

These meters, one for chilled water and the other for high temperature water, record directly in B.t.u. the amount of heat or refrigeration actually used in the building.

The meters are placed in the mains serving the building. The B.t.u. meter consists of a liquid meter, an integrator, and two temperature sensing bulbs. One of these bulbs is placed in the supply main and the other in the return main.

The liquid meter in the high temperature hot water system is generally placed in the return line and the chilled water meter may be placed in the supply or the return line, depending upon the conditions specified by the engineer.

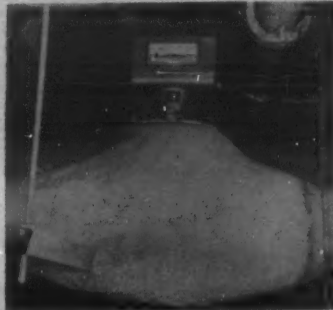
The difference in temperature between the water in the supply and return is multiplied mechanically by the integrator with the flow of water which has been converted to weight.

The result in B.t.u. is shown cumulatively on a digital counter on the face of the meter. In addition to the total B.t.u., instantaneous temperature difference is indicated and the gallons of water are shown cumulatively.

The B.t.u. consumed are read from the meter at regular intervals and a charge is made on the total B.t.u. used.

The chilled water system operates at a 10° temperature difference and the high temperature hot water system operates at a 140° temperature difference.

In the future, should the Port Authority provide air conditioning in the tenant areas of the Operations building, it may at



POLLUX B.T.U. METER installed in chilled water system serving Port Authority's Operations building.

any time install an additional meter which would provide a means of charging a fair rate for total B.t.u. consumed in the area leased by the tenant.

The B.t.u. meter takes into account the total B.t.u. consumed, thus eliminating the question frequently raised that the space is on the north side of the building and therefore has a smaller sun load than the south side of the building, etc.

The meters are invaluable in disclosing trouble. If the temperature difference indicator registers too low, say 5° F., on the chilled water lines, the engineer would know that the velocity through the coils is too high, or the automatic regulating valves are not performing correctly or are jammed open.

If the temperature difference is too high (20-35° F.) this would indicate to the engineer that velocity of the water is too low through the coils, the strainers or coils are plugged, or that all automatic regulating valves are jammed closed.

Some 136 of these meters have also been installed to serve 60 tenants in the first section of the new Garden State Plaza shopping center at Paramus, N. J.

With department stores, florist shops, cafeterias, supermarkets, and dry cleaning establishments, heating and cooling requirements vary widely.

"Air Distribution Requirements in Year-Round Air Conditioning" by Frank D. Klein has been omitted from this issue due to space limitations.

Bowlers--

(Concluded from Page 1, Col. 3)

bowlers at Bowler City should be able to find relaxation in bowling after the hardest day's work."

In addition to supplying extra oxygen, the air conditioning system will have electronic filters to remove 95% of the pollen, and activated charcoal filters to supplement the nascent oxygen in removing all undesirable odors.

Bowler City is scheduled for completion in November. Among other features, it will have 50 bowling alleys, a children's play center, a restaurant, a cocktail lounge, and a pro shop.

Credit for laying out the air conditioning system to supply balanced air conditioning to all parts of the recreation center is given to Melvin Gerber, consulting engineer and designer, of Hackensack.

Complete! Compact!
only \$41.00

PREST-O-LITE
Refrigeration
& Air-Conditioning
Outfit

Includes torch handle, leak detector stem, 3 torch stems, regulator (for B or MC tank), 12 1/2 ft. hose assembly, suction hose, and enameled steel carrying case.



Give your customers prompt, fast and complete service with this LINDE leak detecting, soldering, heating, and brazing outfit.

SENSITIVE LEAK DETECTOR

Shows up as little as 100 parts per million of halide refrigerant gas in air—locates leaks too tiny to find with soapy water.

PRECISION CONTROL

Acetylene regulator automatically maintains selected delivery pressure—calibrated screw for pressure adjustment.

JOB-MATCHED OPEN FLAMES

Fine, light, and medium torch stems—instantly interchangeable—for refrigeration and air-conditioning jobs.

EASY TO USE

Detector is simple and positive—soldering and heating torch concentrates flame where needed—everything in one compact case!

Available from your local supplier of LINDE products. For his name and address, write: LINDE COMPANY, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y.



"Linde," "Prest-O-Lite," and "Union Carbide" are trade-marks of Union Carbide Corporation.

Edwards Airvac Supplies 10 Tons of Air Conditioning To New Florida Supermarket*

EDWARDS Airvac Condenser Utilizes Convection Principle.

Eliminates Noise, Motors, Maintenance, Structural Problems.

Heat rising from the horizontal condenser creates a chimney-like draft that continues to draw fresh air through the unit. Manufactured in 2, 3, 5, and 7 1/2 ton basic sections, which then can be assembled in multi-sections for unlimited capacities up to hundreds of tons.



Edwards Engineering Corp. Manufacturers Agents Inquiries Invited.



EDWARDS ENGINEERING CORP.

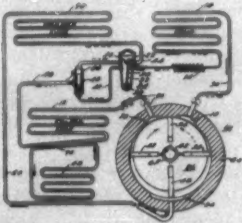
103 ALEXANDER AVENUE • POMPTON PLAINS, NEW JERSEY

*Daylight Grocery Co., 1003 Florida Avenue, Jacksonville, Florida

PATENTS

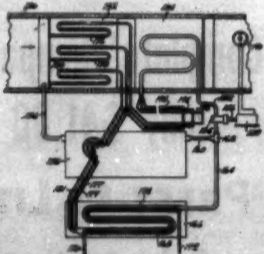
Week of July 29

2,944,945. REVERSIBLE REFRIGERATING SYSTEMS. Glenn Muffy, Springfield, Ohio.



1. In a two-temperature refrigerating system, two evaporators of which one is cooled to a lower temperature than the other, pressure reducing means providing two stages of pressure reduction in series to feed liquid refrigerant to said one evaporator, and means for causing said one evaporator to act as a condenser while refrigerant flows through one of said stages of pressure reduction and the other of said stages is bypassed.

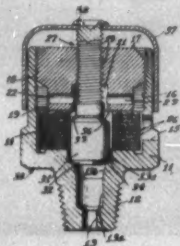
2,944,946. AIR CONDITIONING DEVICE WITH REHEAT MEANS. Donald A. Bauer, Michigan City, Ind.



An air conditioning device comprising a housing having an air inlet and an air outlet, a direct expansion coil, a reheat coil, said coils being mounted in said housing in sequence, a compressor connected to said expansion coil, a condenser, a line connecting said condenser to said compressor, a line connecting said condenser and said direct expansion coil, a line connected to said reheat coil and branch-

ing from the line between said compressor and condenser.

2,945,090. AUTOMATIC OR MANUAL HOT WATER VENT VALVE ASSEMBLY. Roy J. Kraft, Des Plaines, Ill., assignor to The Dole Valve Co., Chicago, Ill.



1. An air vent valve comprising a body member having a central cavity and an inlet and an outlet, said cavity providing a fluid passageway between said inlet and said outlet, a bushing received within said cavity in said body member in adjustable position, a valve element adjustably positionable along said bushing, said valve element including an enlarged end portion having a pair of spaced valve seating surfaces, means in said body member providing a rigid seat for one of said surfaces.

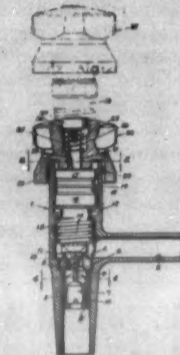
Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

2,945,061. DRAIN VALVE. Robert H. George, Melrose Park, Pa.



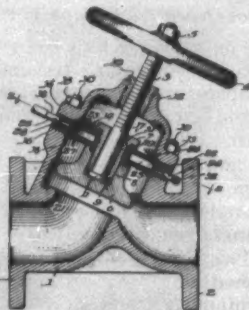
1. A drain valve for condensate comprising a housing made of separable parts, a condensate inlet connection at one end of said housing, a bushing fixedly mounted within said housing subdividing the interior thereof into a valve chamber extending interiorly to said one end of said housing and an operating chamber extending interiorly to the other end of said housing.

2,945,093. FLUID CONTROL VALVE WITH SUPPLEMENTAL CHECK VALVE. Clinton L. Graybill, Superior, Mont.



A valve of the character described comprising in combination a hollow cylindrical valve housing internally threaded for a portion of its length and having a top and bottom valve seat formed on the interior thereof and an outlet opening adjacent one of said valve seats, a manually actuated cylindrical valve body externally threaded for a portion of its length at one of its ends and thereby threadedly mounted within the valve housing for rotatable and reciprocal movement with respect thereto and for cooperating with said top valve seat.

2,945,064. FLUID COOLED DIAPHRAGM VALVE. Gustav C. Detlefson, Chicago, Ill., assignor to Crane Co.



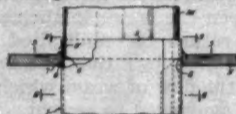
1. In a flexible valve diaphragm having an internal chamber defined by a top wall portion and a bottom wall portion, a rim portion joining the peripheries of said wall portions, the diaphragm having at least one inlet and one outlet passage traversing said peripheral rim portion, at least one supporting member positioned substantially in a central portion of said internal chamber.

2,945,253. HEATING OR COOLING BUILDINGS. Egon Runtz, Neuchâtel, Switzerland.



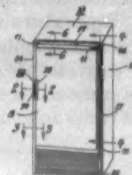
Apparatus for conducting temperature-modifying fluids for the heating or cooling of a room having a flat wall surface and a floor surface comprising a heating panel arranged parallel to and spaced from the wall surface, said heating panel consisting of a plurality of horizontal tubes of rectangular cross-section arranged in side-by-side superposed aligned relationship with the shorter sides of adjacent tubes being contiguous.

2,945,264. HEAT EXCHANGER COUPLING UTILIZING BOTH A LOCK AND A LAP SEAM. Elmer V. Kallstrom, Racine, Wis., assignor to Modine Mfg. Co., Racine, Wis.



1. In a header and a tube assembly for a heat exchanger, the combination of a header member having an aperture therein, a flattened seamed tube comprising a strip of sheet material shaped to form a tubular body having a longitudinally extending joint formed by the longitudinal edges of the sheet at an edge of the tube, said edges being bent to provide complementary interlocking U-shaped channels forming a lock seam of four thicknesses of material, said lock seam extending inwardly with respect to the tube side wall.

2,945,320. REFRIGERATOR CABINET CONSTRUCTION. Orson V. Saunders and James A. Wallace, Dayton, Ohio, assignors to General Motors Corp., Detroit.



1. In a refrigerator, a cabinet having insulated walls forming a food storage compartment therein provided with a front access opening, a door for said opening arranged to seal against a part of the front of said cabinet insulated walls adjacent the compartment opening, hinge means for pivotally mounting said door on said cabinet, said hinge means comprising a door supporting element secured to the front face of said cabinet and carrying a hinge pin spaced forwardly of said face.

2,945,321. REFRIGERATING APPARATUS. Orson V. Saunders and Milton G. Betz, Dayton, Ohio, assignors to General Motors Corp., Detroit.



1. In a refrigerator, a cabinet having insulated walls, said cabinet having an open front food storage compartment therein, a door for closing the open front of said food storage compartment, a door seal strip arranged between said door and the front edges of said insulated walls, a plurality of mounting brackets secured to the front edges of said insulated walls on opposite sides of said door opening.

How to write orders — right now!

1958 Can Be A Better Year Than You Might Expect!

The fourth quarter of 1958 will tell the story for many a company in terms of profit and loss. But one important fact stands out — *there's still plenty of time to increase your sales!*

AIR CONDITIONING & REFRIGERATION NEWS — with highest paid circulation in history (23,059 average paid — ABC Publisher's Statement period ending June 30, 1958) — is ready *every week* to carry your "ask for the order" advertising to just about everybody in the industry.

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AIR CONDITIONING & REFRIGERATION **NEWS**

The Newspaper of the Industry

OPPORTUNITY FOR A THOROUGHLY EXPERIENCED DESIGN OR ADMINISTRATIVE ENGINEER IN THE COMMERCIAL REFRIGERATION FIELD

Multi-plant manufacturer in eastern area offers permanent connection for the qualified applicant, in addition to unusual fringe benefit programs.

State complete educational background, marital status, work experience and earnings capacity, in your reply.

Write — R. J. Dietrich, Rm. 316, 739 N. Broadway, Milwaukee, Wis.

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RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

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POSITIONS AVAILABLE

HAVE OPENING for qualified field representative capable of appointing distributors, helping them plan stores, and serving existing customers. Territory Illinois, Wisconsin, Iowa, Indiana. Not necessary live in the Chicago area; could work from central Illinois or Indiana. Present representative being promoted, creating this opportunity with a fast-growing company. Write WARREN REFRIGERATORS, P. O. Box 1436, Atlanta, Georgia.

FIELD SERVICE engineer wanted for the eastern part of the United States. Age under 40. Position pays salary and expenses, provides insurance, hospitalization, and vacation with pay. Applicant must be free to travel in a limited territory. Good personality, 10 years of commercial installation and service experience is required, including working knowledge of electricity. Give full details of your background and experience and enclose small professional photograph and telephone number in first letter of application. Give five references. BOX A5103, Air Conditioning & Refrigeration News.

SALES ENGINEER—College graduate. Preferably mechanical engineer with some knowledge and experience in heating and cooling market products. Willing to relocate. Challenging opportunity. Give salary history and salary requirement. BOX A5110, Air Conditioning & Refrigeration News.

REFRIGERATION & Air conditioning service executive. A man with a background of extensive service and engineering experience particularly geared to handle a service organization of 50 men. A contract with an excellent salary available. New York metropolitan area. Replies confidential. BOX A5111, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

AJAX ICE machine parts—New and rebuilt parts available. EVERGREEN 2-6393. AJAX PHILADELPHIA, INC., 3617 Lancaster Avenue, Phila. 4, Pa.

MODEL HH 2 h.p. automobile air conditioning compressors tapered shaft, vertical mount, complete with flywheel \$33.95. Send for free circulars and catalogs on money saving refrigeration & air conditioning parts and supplies. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

BUSINESS OPPORTUNITIES

FOR SALE or lease: A well established hermetic rebuilding business. New, well equipped shop. Large drawing area for both wholesale and retail work. Reply to BOX A5112, Air Conditioning & Refrigeration News.

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Patented Low Temperature
HEAT TRAP COIL



Defrosts Automatically

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WITT DEFROSTAIR heat trap coil requires only a low cost single pole, double-throw, time clock for complete automatic defrosting. Easy low cost installation. Requires no re-evaporation or special plumbing. Available in 17 models in BTU capacities of from 1,800 to 38,000 at 10° F.D.

For light frost applications and fresh meat refrigerators with temperatures between 28° and 33° F., use the new, inexpensive, highly efficient COR-LECTRIC.

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Coming—a **SPECIAL** ISSUE to answer the most challenging question in the industry today



Residential Air Conditioning at the crossroads

To give an authoritative answer on "Where do we go from here?" AIR CONDITIONING & REFRIGERATION NEWS is going into the field to ask the only individuals in a position to know—top executives in the year-round residential air conditioning field including manufacturers, cooling and heating contractors, distributors, and dealers.

Here are just a few of the explosive questions to be answered:

- Do enough families truly want air conditioning to provide a substantial market with real growth possibilities? If not, why not?
- Is "selling" really the problem—or is it "engineering?"
- Are present-day installation practices and costs dampening enthusiasm for the product? If so, how can they be improved?

- How much of the residential market can and will be supplied by window and through-the-wall units?
- How much progress can we expect in the next five years in the application and sale of reverse cycle units and supplemental electric resistance heating?
- Where, how, and by whom has imagination been applied to *selling* residential heating systems?

Imagine the Interest of this Five Year Look at the Future to Your Customers and Prospects!

The "WHERE DO WE GO FROM HERE" issue of the NEWS will answer the above questions—and many others—in a dynamic symposium technique which is sure to generate outstanding interest.

This special editorial job is bound to have great retentive value. It will be discussed, studied, routed, and acted on for months to come. And it will stand as one of the most valued showcases for your advertising message to come along in many a year.

RESERVE SPACE TODAY

Be sure the thousands of readers of AIR CONDITIONING & REFRIGERATION NEWS find your product or service message in this challenging issue. Remember—the results of this nation-wide depth survey of important influences in every phase of the industry will appear in the November 10 issue.

Closing October 29

AIR CONDITIONING & REFRIGERATION

The Weekly Newspaper of the Industry

RESIDENTIAL — COMMERCIAL — INDUSTRIAL

NEWS

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FRANKLIN 2-8088, REX SMITH.

LOS ANGELES, 4710 CRENSHAW BLVD.
AKMINSTER 2-8601, JUSTIN HANNON.

DETROIT, 450 W. FORT ST.
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FOUR STORIES ABOUT DUNHAM-BUSH

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- 1 DUNHAM-BUSH COOLING
- 2 DUNHAM-BUSH HEATING
- 3 BRUNNER COMPRESSORS
- 4 HEAT-X PACKAGE CHILLER

The high quality heating and cooling equipment which services all four stories of the handsome new Suburban West office building, Cleveland, Ohio, is a physical expression of the Dunham-Bush 'one source — one responsibility' reputation.

A 75 Ton Heat-X Package Chiller, efficiently assisted by a rugged Brunner Compressor, supplies chilled water to the air conditioning system. 130 Dunham-Bush CRV Remote Air Conditioning units provide quiet, year 'round air conditioning of the building. 20 Dunham-Bush Recessed Convectors satisfy the heating demands.

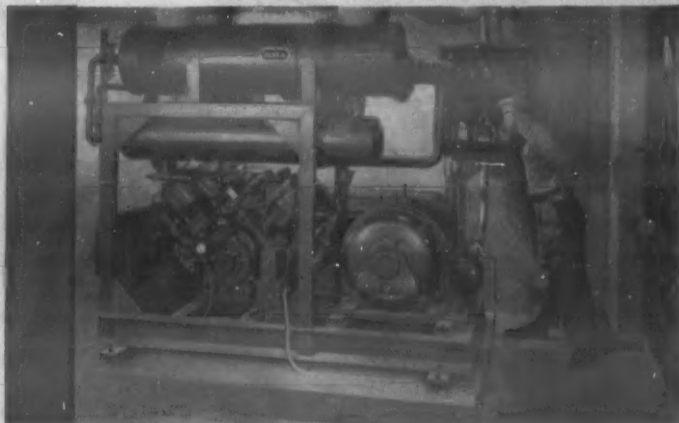
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